LIGHTING CONSULTATION: LAW OFFICES OF SMITH AND SMITHSON

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Nora Recessed Directional	

LIGHTING CONCEPT

General Themes

The lighting system for the— Law Offices of Smith and Smithson will provide a smart and savvy style while maintaining energy efficiency and encouraging comfort and productivity. Carefully selected luminaires of a neutral and inviting color palette will enhance the curved shape appeal of the interior design and lessen the power usage of the company's working spaces. Energy saving technologies utilized in each room include occupancy sensor switches, compact fluorescents, LEDs, and automated daylight control. An Airwave Wireless system will be capable of adjusting intensity levels (by the user or automation) within various customized presets based on time of day, weather, and day-to-day purpose in each space.

Reception Area

The clients will be welcomed with an upscale and relaxing atmosphere in the reception area with target illumination of 200 lux. The company's logo will be highlighted above the reception desk with a directional recessed luminaire. Adjacent recessed downlights will illuminate the desk's work area to create a pleasing and professional look to the client's first contact within the office space. Two blue handcrafted Bobo glass LED sconces will flank the logo on the West wall behind the receptionist for a modern appeal. Above the seating area which is recommended to be placed on the East side of the room near the windows—a radiant and elegant hanging LED pendant bouquet of Bobo glass will produce a refined impression while Ledalite Verge wall fluorescent luminaires will provide comfortable atmosphere along the perimeter of the room. This room will also include programmable dimmer presets (panel located behind reception desk) to adjust for daily clients or company events shifting focus from the desk and seating area to an overall room illumination. Automated mesh shade curtains are recommended on the East windows to adjust for variable daylight levels.

Conference Room

The conference room will feature a versatile design to engage clients and employees alike with custom programmable dimming options to shift the atmosphere of the room based on its use employing a target illumination of 300 lux. Programs may include focus to the projection screen or conference table to suit daily meetings, presentations, client consultations, events, and more (panel located on the East wall.) A set of luxurious LED Bobo glass bouquet pendants will hang above the conference table facilitate both an uplifting and productive atmosphere. Recessed directional luminaires will be strategically placed around the room to target items of interest such as bookcases, art, and bulletin boards along the walls. The perimeter will be soothingly lit with Ledalite Verge wall fluorescents similar to the reception area. A coffered ceiling with Ledalite In-Cove lighting and slightly specular ceiling will assist in illuminating the conference table. Automated mesh shade curtains are also recommended in the conference room.

Office Area

The partners, paralegals, and other company members will enjoy a glare-free environment in the office area that promotes efficiency and accuracy with a 250 lux target illumination. A system of inviting Ledalite Verge indirect fluorescent luminaires will provide the majority of the lighting over the work space. Recessed downlights will provide extra visual ease along the walkways and recessed directional lights will add extra illumination for the counter space on the North side of the room. Additional directional fixtures are included to highlight any aesthetic features in the space including wall art and bulletin boards. LED task lighting with movable necks will be provided for each workstation and may be operated by employees at their discretion at the convenience of their desk. Airwave photo-sensors throughout the large room will adapt lighting levels in the working zone to provide a consistently lit work environment for comfort and productivity despite variable daylight from the surrounding windows.

CONCEPTUAL RENDERINGS



Conference Room – Side View



Conference Room – Plan View

ILLUMINATION TASKS AND GOALS

Reception Area									
Task	Horizontal Target (Lux)	Vertical Target (Lux)							
Reception Desk	400	150							
Waiting Area	200	100							
Displays	-	150							

Conference Room										
Task	Horizontal Target (Lux)	Vertical Target (Lux)								
Meetings	300	75, 150 (when reading)								
AV Presentation	30	30								
Front-screen projection	-	50								

Office Area											
Task	Horizontal Target (Lux)	Vertical Target (Lux)									
Filing (based on frequency)	100, 150, 300	75, 100, 200									
Print Media (based on font)	100, 150, 250	50, 50, 75									
Computer Screen (based on type)	37.5, 75, 75, 150	15, 25, 25, 75									

PREDICTED ILLUMINANCE VALUES



Conference Room Illumination – Side View



Conference Room Illumination – Plan View

REFLECTED CEILING PLAN





LUMINAIRE AND CONTROL SCHEDULES

LUMINAIRES

Crowbal	Monufacture	Catalog Number		Lamp		Volta	B F	Tinish	D ann amlag	Manuch on of Firstance
Symbol	Ivianuracturer	Catalog Number	Number	Туре	Watts	VOILS	wounting	ruusu	Remarks	Number of rixtures
R1	Edison Price	DTTV13/6-120-VFL	1	CFL	13	120	Ceiling	White	Down	25
R2	Edison Price	DTTV13/6-CWW-120-VFL		CFL	13	120	Ceiling	White	Corner	12
R3	Edison Price	DTTV13/6-120-DWW-VFL	1	CFL	13	120	Ceiling	White	Double Wall	10
R4	Nora	NL-401QAT	1	CFL	50	120	Ceiling	White	Directional	17
P1	Ledalite	7606-T02-Q-N-4-3-1-E-W	2	FL	36	120	Ceiling	White	4' length	10
P2	Bruck	137501ch/bl	7	LED	21	120	Ceiling	Blue	Blue	5
S1	Bruck	102-915-ch	(1)	LED	3	120	Wall	Blue	Blue	2
W1	Ledalite	7608-F01-Q-N-16-7-1-E-W	1	FL	74	120	Wall	White	16' length	4
W2	Ledalite	7608-F01-Q-N-20-7-1-E-W	1	FL	90	120	Wall	White	20' length	4
C1	Ledalite	3803-F01-R-N-4-7-1-E-W	1	FL	18	120	Cove	White	4' length	2
C2	Ledalite	3803-F01-R-N-16-7-1-E-W	1	FL	74	120	Cove	White	16' length	2
T1	Bruck	135785mc/m	1	LED	3	120	Cubicle	White	30deg	10

DIGITAL CONTROL									
Symbol	Manufacterer	Name	Number of Fixtures						
A1	Airwave	Wireless Occupancy Sensor	3						
A2	Airwave	Wireless Photosensor	3						
L1	Lutron	GRAPHIK Eye Preset Control	3						

Room	Channel	Purpose	Fixtures
Reception	1	Downlight Through	DTT Recessed (6)
Reception	2	Downlight Waiting	DTT Recessed (11), Bobo Bouquet (1)
Reception	3	Perimeter	Verge Wall (20)
Reception	4	Logo	Bobo Sconce (2), Nora Directional (1)
Reception	5	Reception Desk	DTT Recessed (4)
Office	1	North Indirect	Verge Suspended (5)
Office	2	Center Indirect	Verge Suspended (5)
Office	3	South Hallway	DTT Recessed (9)
Office	4	North Hallway	DTT Recessed (7)
Office	5	Counter	Nora Directional (4)
Office	6	Wall Art / Bulliten Boards	Nora Directional (6)
Conference	1	Downlight	DTT Recessed (14)
Conference	2	Perimeter	Verge Wall (20)
Conference	3	Cove	Verge In-Cove (10)
Conference	4	Wall Art / Bulliten Boards	Nora Directional (6)
Conference	5	Table Pendants	Bobo Bouquet (4)

Deserve	Descent	Deserve	Intensity Value (%)								
Room	Preset	Purpose	Ch 1	Ch 2	Ch 3	Ch 4	Ch 5	Ch 6			
Reception	1	Workday	Airwave	Airwave	Airwave	100	100	n/a			
Reception	2	Afterhours	25	25	25	0	20	n/a			
Reception	3	Custom	10-1		-	-	2 - 01	n/a			
Office	1	Workday	Airwave	Airwave	75	75	75	75			
Office	2	Afterhours	25	25	25	25	0	0			
Office	3	Custom	-	17.9	-	-	120	-			
Conference	1	Workday	Airwave	Airwave	Airwave	75	50	n/a			
Conference	2	Afterhours	25	25	25	0	0	n/a			
Conference	3	Presentation	50	50	45	10	10	n/a			
Conference	4	Projection	0	50	45	10	10	n/a			
Conference	5	Private Event	30	85	75	10	100	n/a			
Conference	6	Custom		0+3.	-	-	(-)	n/a			

LUMINAIRE ANALYSIS

ROOM CAVITY RATIO ANALYSIS												
	Office			Conference				Re	ception			
Length	40	62	2015		26	42	1365		24	40	1300	
Width	22	880			16	416			16	384		
Working Height	6.5				6.5				6.5			
RCR				2.29				3.2813				3.385

ZONAL CAVI	ZONAL CAVITY ANALYSIS													
	Office			Conference					Reception					
	DTT	Nora	Leda.	Bruck	DTT	Nora	Leda.	Leda.	Bruck	DTT	Nora	Leda.	Bruck	Bruck
Туре	Rec. Down	Rec. Dir.	Indirect	Task	Rec. Down	Rec. Dir.	Peri.	Cove	Pendant	Rec. Down	Rec. Dir.	Peri.	Pendant	Sconce
Target FC	25	n/a	25	n/a	30	n/a	30	30	n/a	20	n/a	20	n/a	n/a
Area	880	n/a	880	n/a	416	n/a	416	416	n/a	384	n/a	384	n/a	n/a
cu	0.862	n/a	0.6426	n/a	0.6916	n/a	0.576	0.586	n/a	0.6883	n/a	0.5705	n/a	n/a
LLF	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Lamp Lumens	900	440	3482	140	900	440	675	1364	204	900	440	675	n/a	n/a
# NEEDED	41	9	15	5	29	6	46	23	4	18	1	29	1	2

Room Cavity Ratio = 5(Working Height)(Length + Width)

Length x Width

of Luminaires = aTarget Illumination x Area

Luminaire Lamp Lumens x CU x LLF

Product Manual | R airwave

3.0 Solar Powered Wireless Photosenson

The Airwave photosenson is a battery-free device which operates on solar energy harvested from integral miniature photovoltaic cells. The photosenson also transmits signals wirelessly. This enables the device to be placed anywhere in the space and moved at any time after the initial installation.

The photosensor monitors the ambient light present in a space and wirelessly transmits light levels to the Airwave transceiver. The transceiver then uses the data to automatically dim, brighten or switch ONV OFF the associated lights. For proper closed loop control, the photosensors should be linked to only one transceiver, and should be located over the same area that the luminaires are meant to illuminate with a field of view that represents a typical work surface in the space (not necessarily next to windows).

Two different set points are stored in the transceiver memory, one set point for 0-10V drimning balasts, and another set point for standard non-drimning balasts. Set points can be easily changed by the user and stored in the transceiver memory (see Programming Guide).

3.1 0-10V Dimming Ballast Systems

For unining so upped with 0-10V dimining balasts the transceiver receives signals from the photosersor and then dim/brightens luminaire(s) in order to maintain a factory preset light level of approximately 50fc at the work surface. Luminaires equipped with dimming balasts are not evitched OFF by the photosersor signal. The lighting can be manually lowered using the Airwave Switch, but the Photosensor sists the upper lighting level limit and cannot be overridden. This ensures that energy savings cannot be disabled. If the light level is lowered manually with the Switch, the lamps will remain at that level unless a) the Photosensor control loop commands an even lower artificial light level, b) the lamp level is manually raised by the Switch until it reaches the Photosensor control loop setting, or c) the lights are turned off and then bodi on again.

3.2 Standard Non-Dimming Ballast Systems

Photosensoritransceiver systems controlling standard non-dimming ballasts switch luminaire (s) ON/OFF based on a factory preset threshold light level of approximately 100fc at the work surface. There is a factory-set 20% threshold between the ON and OFF trip points as well as a two minute minimum delay between ON/OFF switching to minimize occasions where the luminaire would turn on and off in succession as a result of unusual charges in light levels.

As with driving talasts, the energy savings cannot be disabled with a wall switch. If the Photosensor has turned the non-driving luminaire(s) off, it cannot be switched back on manually with the wall switch.

3.3 Specifications

Power Source Solar cells - no batteries required Measurable light range 0-47 footcandles (0-510 lux) Minimum light to charge 4.6 foctcandles (50 lux) at 100 second transmission (light level not changing) 23 foctcandles (250 lux) at 10 second transmission (light level constantly changing) View angle Approximately 140° Dimensions 3.9" diameter (100mm), 0.9" height (2.3mm) Mounting Surface mount via screws, tape, glue, etc OperatingTemperature -25° to +65°C Wireless Frequency 315 MHz Max. 10 mW EIRP Transmission Power Transmission Range 100 ft indoor (30.5 m) Transmission Interval 10 seconds when light level is changing, 100 seconds otherwise Wireless Technology EnOcean FCC.IC Regulatory Radio



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CK alrwave Product Manual

4.0 Solar Powered Wireless Occupancy Sensor

The Airwave occupancy sensor is a battery-free device which operates on solar energy harvested by integral photovoltaic cells. This enables the device to be placed anywhere in the space and moved at any time after the initial installation. The sensor uses Passive Infrared (PIR) detection circuitry and wireless transmission to send an occupancy or vacancy signal to the Airwave transceiver, which responds by turning the lights on or gradually dimming the lights to off. The Airwave cocupancy sensor can detect motion in up to a 30 foot diameter when placed on 8 to 12 foot ceiling. The optimal placement for PIR occupancy sensors is directly above the area with the most motion and where the motion is not shadowed by line-of-sight obstacles.

The wineless occupancy sensor time delay is set in the transceiver memory at 15 minutes; but can be user adjusted to 30 seconds or 5, 10, 15, 20, or 25 minutes; (See the Airwave Programming Guide for instructions on setting the occupancy time delay.)

The time delay parameter in the Transceiver must be set after the wireless occupancy sensor is linked. The time delay programming setting is the "Timed Switch" delay time until an occupancy sensor is attached (wired or wirelessly).

An Airwave wall switch will allow manual on/off control of the lights regardless of whether the Transceiver is set in manual-On or auto-On occupancy mode.

For conference room applications where the lights need to be off during an AVV presentation, the lights will remain off after a manual-Off from an Airwave switch until the room becomes unoccupied or the lights are manually switched back on. After this point the occupancy sensor and Transceiver will return to normal on/off control of the lighting.

4.2 Specifications Power

Miniature photovoltaic cell - no batteries required
3 footcandles (30 luk)
1 minute at 3 footcandles (±30 lux)
8 hours at 20 footcandles (±200 lux)
min. 60 hours at 0 footcandles (0 lux), including Auto-On applications
10 years
360°
4.8" diameter (122mm), 1.5" height (38mm)
Surface mount via screws, tape, glue, etc
-25° to +65°C
315 MHz
100 ft indoor (30.5 m)
2 minutes (first occupancy detection sends an immediate transmission)
EnOcean
FČG, IC



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Job Name:	Contact:	
Fixture Type:	Part Number:	
BOBO LED BOUQUET		
	Job Name: Fixture Type: BOBO LED BOUQUET	Job Name: Contact: Fixture Type: Part Number: BOBO LED BOUQUET

Description:

The Bobo LED Bouquet is a suspended cluster of seven pieces of Bobo glass. Canopy accommodates LED driver for seven 3W LEDs and excess of power cables for height adjustment. Standard cable length of 59" can not be field cut. Specify custom length when ordering.

Part Numbers:

137501bz/bl	🔳 bronze, blue glass
137501ch/bl	chrome, blue glass
137501mc/bl	🔳 matte chrome, blue glass
137501bz/rd	📕 bronze, red glass
137501ch/rd	chrome, red glass
137501mc/rd	📕 matte chrome, red glass
137501bz/cl	📄 bronze, clear glass
137501ch/cl	📄 chrome, clear glass
137501mc/cl	📄 matte chrome, clear glass

Technical Specs:

100-277V AC, 50/60Hz input 700mA DC constant current output 17VA, 16W for 7 (3 watt LEDs) 3000K 68 lpw see technical sheet

Suitable for dry locations only Mount to 3" - 4" round J-box Short circuit protection Overload protection Over-voltage protection Thermal protection



Warranty:

All 3 Watt LED fixtures are warranted to be free from defects in material and workmanship for three (3) years from date of delivery. For full warranty details, please see our terms and

p:714.259.9959

f:714.259.9969



27 Jan 2012

Technical Specs:

Low voltage Round Canopy	Low voltage Diamond Canopy
	$ \begin{array}{c} 3^{n} \\ 3^{n} $
100 - xxx	101 - xxx
120V AC, 50/60Hz input	120V AC, 50/60Hz input
11.7V AC output	11.7V AC output
49W, 50VA (max 50 Watt lamp)	49W, 50VA (max 50 Watt lamp)
GY6.35 socket	GY6.35 socket
Dimmable	Dimmable
Mount to 3 1/2" - 4" round J-Box	Mount to 3 1/2" - 4" round J-Box
Suitable for dry locations only	Suitable for dry locations only
Short circuit protection	Short circuit protection
Overload protection	Overload protection
Thermal protection	Thermal protection
	LED Diamond Canony
4 1/4"	
102 - xxx	103 - xxx
102 - xxx 100-240V AC, 50/60Hz input	103 - xxx 100-240∨ AC, 50/60Hz input
102 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output
102 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED)	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED)
102 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens
102 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K: 120 source lumens 4000K: 140 source lumens
102 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K: 120 source lumens 4000K: 140 source lumens see technical sheet
100-240V AC, 50/60Hz Input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet
102 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box Suitable for dry locations only	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box
102 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box Suitable for dry locations only Short circuit protection	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box Suitable for dry locations only
100-240V AC, 50/60Hz input 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box Suitable for dry locations only Short circuit protection Overload protection	103 - xxx 1003 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K: 120 source lumens 4000K: 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box Suitable for dry locations only Short circuit protection
102 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box Suitable for dry locations only Short circuit protection Overload protection Thermal protection	103 - xxx 100-240V AC, 50/60Hz input 700mA DC constant current output 3W, 6VA (3 Watt LED) 3000K : 120 source lumens 4000K : 140 source lumens see technical sheet Mount to 3 1/2" - 4" round J-Box Suitable for dry locations only Short circuit protection Overload protection

1:714.259.9969

Job Name:		Contact:
RA Fixture Type:		Part Number:
by BRUCK. LEDRA® 4" FL	EX wit	th SWITCH
Description:		
The Ledra 4" Flex wit	th Swite	ch is a flexible hose display fixture. Fixture
has an on/off switch.	Fixture	includes integral driver. The small size,
long life, lack of UV, a applications.	and coo	ol beam allows for a wide variety of
Part Numbers:		
135785bz/s	12	bronze, white, 10° lens
135785bz/m		bronze, white, 30° lens
135785bz/fl		bronze, white, 45° lens
135785mc/s		matte chrome, white, 10° lens
135785mc/m	10	matte chrome, white, 30° lens
135785mc/fl	12	matte chrome, white, 45° lens
135785-1bz/s		bronze, warm white, 10° lens
135785-1bz/m		bronze, warm white, 30° lens
135785-1/bz/fl		bronze, warm white, 45° lens
135785-1mc/s		matte chrome, warm white, 10° lens
135785-1mc/m		matte chrome, warm white, 30° lens
135785-1mc/fl		matte chrome, warm white, 45° lens
Technical Specs:		
100-240V AC, 50/60	-Iz inpu	t
700mA DC constant	current	output
6VA, 3W for 1 (3 Wat	tt LED)	
3000K : 120 source l	umens	
4000K : 140 source li	umens	
<u>see technical sheet</u>		
Suitable for dry lo	cation	ns only
Mount to 3 1/2" -	4" rou	Ind J-box
Short circuit prote	ection	
Overload protecti	on	

Warranty:

Thermal protection

All 3 Watt LED fixtures are warranted to be free from defects in material and workmanship for three (3) years from date of delivery. For full warranty details, please see our terms and conditions <u>here</u>

DTT13/6

recessed compact fluorescent downlight/wallwasher

Spec Sheet COMPACT FLUORESCENT 1-105

FEATURES

DTT13/6 is an efficient 6" aperture recessed low brightness downlight designed for use with a 13-watt compact fluorescent lamp. The fixture provides a shielding angle of 40°. One basic housing allows interchangeable use of the downlight and wallwash reflectors. This permits housings to be installed first and reflectors installed or changed at any time.

DTT13/6 uses a 13-watt, 4-pin lamp providing 900 lumens (the same as a 60-watt incandescent), and it consumes only 16 watts when operated at 120 volts. Compact fluorescent lamps have a 10,000-hour life, a color rendering index (CRI) of 85, and are available in a range of color temperatures as warm as 2700°K (nearly duplicating the color qualities of incandescent).

Reflectors are available in clear, natural aluminum in two finishes: EvenTone, our standard clear finish, partially diffuse, anti-iridescent and gently luminous in appearance; and EasyTone, diffuse and luminous. Additionally, reflectors are available in champagne gold, wheat, pewter and bronze. Wallwash (120°), corner wallwash (210°) and double wallwash (2x120°) reflectors are also available.

DTT 13/6 includes a pair of mounting bars (¾" x 27" C channel). Specialty bars for wood joist and T-bar installations are available as accessories.

APPLICATIONS

Fixture is recommended for downlighting or wallwashing in offices, stores, auditoriums, lobbies, hotels and corridors.

Fixture is 🖓 Isted for Damp Location (may not be suitable for some



outdoor environments). Fixture is prewired with high power factor Class P electronic ballast, suitable for use in a fire rated ceiling, and approved for eight#12 wire 75°C branch circuit pull-through wiring. Removal of the reflector allows access to the ballast and junction box.

MODIFICATIONS AVAILABLE

ontact factory with quantity for pricing; orders may require shop drawing approval.

- CHP-: fixture suitable for Chicago Plenum; add CHP- as prefix to Product Code. CONC-: fixture suitable for poured-in-place concrete; add CONC- as prefix to
- Product Code EXP: 'European-style' install-from-below fixture; add EXP- as prefix to Product Code. +2"CLG: fixture suitable for installation in 2" thick ceiling material; add +2"CLG to
- Product Code. +DOD: fixture suitable for high humidity environments

+MAR: reflector suitable for marine environments



PRODUCT CODE

For complete product code, list basic unit and select one item from each following box.

Basic Unit					
Reflector Type Downlightno suffix WallwashWW	Corner WallwashCWW Double WallwashDWW				
Voltage 120 volt service120	277 volt service				
Reflector Color and Detail	erlap Flush Trim ange Flush Flush*				
Eventione Clear EasyTone Clear Other reflector finishes are availa	COLVIF COLECFLECTF able on special order.				
Overlap Flange continues reflector finish. Whi are available on special order. Add WF (white *Trim Flush reflector trim requires the use of a pla	te painted flanges and custom painted flanges e flange) or CCF (custom color flange). aster ring Accessory (see below).				

OPTIONS Specify by adding to the basic unit.

Emergency battery pack operates lamp in event	
reflector. Not for outdoor application – EM	
%'' (3mm) thick $dear acrylic shield, spring-mounted in reflector. Available with downlight or WW reflector only$	

ACCESSORIES Specify as a separate line item.

Plaster ring allows use of Trim Flush (-TF) reflector in sheetrack ceiling: Z 3/z ⁴ (183mm) dia hale is required	Γ
	Ļ

 Dimming ballast not available.
 A modified fixture suitable for 347-volt service is available on special order. Contact factory. Decorative reflector rings are available on special order. Contact factory



41-50 2210 STREET, LIC NY 11101 TEL 718.685.0700 FAX 718.786.8530 www.epl.com

DTT13/6

PHOTOMETRIC REPORT

🗱 🕅 Report No. 34098. Original Independent Testing Laboratories, Inc. (ITL) test report furnished upon request.

Luminaire	rece
Lamp	13-v
Efficency	67.6
Spacing Criterion	0.8

cessed compact fluorescent downlight with spun aluminum reflector, semi-specular finish 3-watt double-tube compact fluorescent, 4-pin, G24q-1 base, 900 lumens 7,6%

Efficency					è	6		•	•	•			
Spacing	Cri	ter	ric	n		1	1	•	•	•	•	ł	Ŷ

BALLAST INFORMATION

Voltage	120	277
Input Watts	18	18
Line Current (A)	.15	.07
Power Factor (%)	>98	>98
THD (%)	<10	<10
Min. Starting Temp* (°F)	0	0

ZONAL LUMEN SUMMARY

<u> </u>									
	Zone	Lumens	%Lamp	%Fixture					
F	0 - 30°	363	40.4	59.7					
	0 - 40°	526	58.5	86.5					
	0 - 60°	607	67.5	99.8					
	0 - 90°	608	67.6	100.0					
	90 -180°	0	0.0	0.0					
	0 -180°	608	67.6	100.0					



LUMINANCE DATA

Vertical Angle	Candelam²
45	8332
55	185
65	123
75	0
85	0

COLOR MULTIPLIERS

EvenTone (V)	.95
EasyTone (EC)	.88
Champagne Gold (G)	.97
Wheat (WH)	.79
Pewter (P)	.81
Bronze (Z)	.58

COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Ceiling Reflectance (%)		8	0			7	0			50			30			10		0
Wall Reflectance (%)	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio																		
0	80	80	80	80	79	79	79	79	75	75	75	72	72	72	69	69	69	68
1	77	75	74	72	75	74	72	71	71	70	69	69	68	67	66	66	65	64
2	74	71	68	66	72	70	67	65	67	66	64	65	64	63	64	62	61	60
3	70	66	63	61	69	65	63	60	64	61	59	62	60	58	61	59	58	57
4	67	62	59	56	66	62	58	56	60	58	55	59	57	55	58	56	54	53
5	64	59	55	52	63	58	54	52	57	54	51	56	53	51	55	52	51	50
6	61	55	51	49	60	55	51	48	54	50	48	53	50	48	52	49	48	47
7	58	52	48	45	57	51	47	45	50	47	45	49	47	44	49	46	44	43
8	54	48	44	42	54	48	44	42	47	44	41	46	43	41	46	43	41	40
9	51	45	41	38	51	45	41	38	44	41	38	43	40	38	43	40	38	37
10	49	42	38	36	48	42	38	36	41	38	35	41	38	35	40	37	35	34

DTT13/6 WW

WALLWASH INFORMATION

Distance	2'6" From W	all; 2'6" O.C.	3' From Wall; 2'6" O.C.			
From Ceiling (Feet)	Below Fixture	Between Fixtures	Below Fixture	Between Fixtures		
1	5	2	3	1		
2	9	7	4	2		
3	16	15	8	7		
4	15	15	10	10		
5	13	13	10	10		
6	10	10	8	8		
7	8	8	7	7		
8	7	7	6	6		
9	6	6	5	5		

All vertical footcandles are initial values with no contribution from ceiling or floor reflectances. Computation performed with a total of five wallwashers.





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Verge™				•		Name			
Suspended					Spec I	ype			
Direct/Indirect				Z	Notes				
2 T8				~//					
mesoOptics	•								
Order Guide	Some combination	is of product options may not be availab	ole. Consult factory for assistance	with your specification.					
7606	T02		-		-			-	
Product Series & Type Verge Direct/Indirect	Lamping 2 T8	Lower Optics Q MescOptics®Lens	Upper Optics N None G 80% Down Kit J 100% Down Kit	Run Length Enter the total run length in feet (4ft increments)	Wiring 1 1 cct 2 2 cct 3 1 cct w/Emergency cct 4 2 cct w/Emergency cct 5 1 cct w/Battery Pack 6 2 cct w/Battery Pack	Voltage Ballast 1 120V E Standard Balli 2 277V Consult website for t manufacturer inform		ist allast tion	Color & Finish W Standard White C Factory Color X Custom Color Consult website for color and finish options
					C 2 COLIN Dationy Fack	Mounting Hardware			
]
			Sae details on reverse	See details on	Consult website for complete list of	Mount Type S Consult separate mounting spec sheet for mount type collings		Suspension Length Enter distance from ceiling to top of fixture in inches	
Upgrades & Acc	cessories	Please indicate with check mark.				- 9-7/16*	\bigcirc		1-9/16"
© 2009 Ledalite Pr	hone: 604.888.6811	Fax: 800.665.5332	/eb: www.ledalite.com				F	ilename 7606T	02QN.pdf Rev 1.3

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Verge™					LEDALITE Project	t Name		
Wall Direct/Indirect 1 T5					Notes	Abe		
mesoOptics* airwave	ſ							
Order Guide	Some combinatio	ns of product options may not be availa	ble. Consult factory for assi	istance with your specification	-			
7608	F01				-			
Product Series & Type	Lamping 1T5	Lower Optics Q MesoOptics [®] Lens	upper uptics N None	kun Length Eoler the total run length in feet (4tr. Increments)	Wining 1 1 cct 3 1 cct w/ Emergency cct 5 1 cct w/ Battery Pack 7 1 cct Dimming	vonage 1 120V 2 277V	Ballast E Standard Ballast	Color & Finish W Standard White C Factory Color X Custom Color
Upgrades & Ac	ccessories	Please indicate with check mark.			standard wiring cotions	6-1/16" -	manufacturer information	T-9/16"
© 2009 Ledalite	Phone: 604.888.6811	Fax 800.665.5332 W	eb: www.ledalite.com				Filename 7	608F01QN.pdf Rev 1.2

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LUTRON

3

	ENORA LIGHTING.						
	Type						
	Type Desired						
NI -463	Project						
Adiastable Oinsbel with Deers Deffle	Catalog No.						
Adjustable Gimbal with Deep Baffle	Lamp/Watta	ge					
TRIM DIMENSIONS							
lest							
	Compatible Housings						
	LINE VOLTAGE						
5"	Item Number	Installation Type	Lamp Dimensions				
	NSL-401AT/10	Non-IC Air-Tight New Const.	50W MR16 W: 5-5/8" L: 8-1/2" H: 5-3/4"				
Trim OD: 5"	INSLR-404AT/10	Non-IC Air-Tight Remodel	50W MR16 W: 4-1/4" L: 11-1/4" H: 5-5/8"				
Height: 2-1/8"		GE					
Contraction of the state	NL-401QAT/20	Non-IC AT New Const., Mag.	20W MR16 W: 6" L: 9" H: 5-1/2"				
FEATURES	NL-401QAT/37	Non-IC AT New Const., Mag.	37W MR16 W: 6" L: 9" H: 5-1/2"				
Trim	NL-401QAT	Non-IC AT New Const., Mag.	50W MR16 W: 6" L: 9" H: 5-1/2"				
Metal trim with adjustable gimbal can be rotated 358° horizontally and 35° vertically.	NL-401/50/277AT	Non-IC AT New Const., Mag.	50W MR16 W: 6" L: 9" H: 5-1/2"				
Precision spun 0.040 aluminum battle with deep grooves to reduce aperture glare. Gimbal ring allows lamp to be mounted on top of the trim	NL-401AT/1EL	Non-IC AT New Const., Elec.	50W MR16 W:6" L:9" H: 5-1/2"				
	NL-401AT/2EL	Non-IC AT New Const., Elec.	50W MR16 W:6" L:9" H: 5-1/2"				
<u>Mounting</u> Trim includes three trim clins that securely mount trim in housing.	NL-401/75	Non-IC AT New Const., Mag.	75W MR10 W: 7" L: 11-1/2" H: 6-3/8"				
	NL-401/75/1FL	Non-IC AT New Const., Reg.	75W MR16 W: 7" L: 11-1/2" H: 6-3/8"				
Compatible with Line Voltage and Low Voltage housings	NL-401/75/2EL	Non-IC AT New Const., Elec.	75W MR16 W: 7" L: 11-1/2" H: 6-3/8"				
See individual specification sheets for more information.	NL-4025/20	Non-IC Shallow New Con., Mag.	20W MR16 W:6" L:8-1/2" H: 3-1/2"				
Lamp	NL-402S/37	Non-IC Shallow New Con, Mag.	37W MR16 W: 6" L: 8-1/2" H: 3-1/2"				
Line Voltage	NL-402S	Non-IC Shallow New Con, Mag.	50W MR16 W: 6" L: 8-1/2" H: 3-1/2"				
50W 120V MR16 GU10 Max. (NSL-401AT/10; NSLIC-401AT/10; NSLR-404AT/10)	NL-402S/1EL	Non-IC Shallow New Con, Elec.	50W MR16 W: 6" L: 8-1/2" H: 3-1/2"				
20W-75W 12V MR16 (NL-401 Series: NL-402 Series: NLIC-401 Series: NLIC-402 Series:	NLIC-401 QSAT/20	IC Air-Tight New Const., Mag.	20W MR16 W: 7-3/4" L: 12-1/2" H: 7-1/4"				
NLR-403 Series; NLR-404 Series; NLR-405 Series)	NLIC-401 QSAT/37	IC Air-Tight New Const., Mag.	3/W MR16 W: 7-3/4" L: 12-1/2" H: 7-1/4"				
Labels and Listings	NUIC-401 QSAT	IC Air-Tight New Const, Mag.	50W MR16 W-10.3/4" L-12-1/2" H-7-1/4"				
cULus Listed for Damp Location when used with compatible housing.	NLIC-401AT/1EL	IC Air-Tight New Const., Elec.	50W MR16 W: 7-3/4" L: 12-1/2" H: 7-1/4"				
	NLIC-401 AT/2EL	IC Air-Tight New Const., Elec.	50W MR16 W: 7-3/4" L: 12-1/2" H: 7-1/4"				
	NLIC-402QSAT/20	IC Air-Tight Shallow NC, Mag.	20W MR16 W: 13-1/8" L: 14" H: 5-3/8"				
	NLIC-402QSAT/37	IC Air-Tight Shallow NC, Mag.	37W MR16 W: 13-1/8" L: 14" H: 5-3/8"				
	NLIC-402QSAT	IC Air-Tight Shallow NC, Mag.	50W MR16 W: 13-1/8" L: 14" H: 5-3/8"				
	NLIC-402AT/1EL	IC Air-Tight Shallow NC, Elec.	50W MR16 W: 13-1/8" L: 14" H: 5-3/8"				
	NLR-4035/20	Non-IC Shallow Nembola, Mag.	20W MR16 W: 4-7/8" L: 13-1/2" H: 3-1/2"				
	NLR-403S	Non-IC Shallow Remodel, Mag.	50W MR16 W: 4-7/8" L: 13-1/2" H: 3-1/2"				
	NLR-403S/1EL	Non-IC Shallow Remodel, Elec.	50W MR16 W: 4-7/8" L: 11-3/4" H: 3-1/2"				
Adjustable Gimbal with Deep Baffle	NLR-4040AT/20	Non-IC Air-Tight Remodel, Mag.	20W MR16 W: 4-7/8" L: 14-1/2" H: 5-5/8"				
NL-463BB: Black Adjustable Gimbal with Deep Black Baffle, Black Ring	NLR-404QAT/37	Non-IC Air-Tight Remodel, Mag.	37W MR16 W: 4-7/8" L: 14-1/2" H: 5-5/8"				
NL-463BC: Chrome Adjustable Gimbal with Deep Black Baffle, Chrome Ring	NLR-404QAT	Non-IC Air-Tight Remodel, Mag.	50W MR16 W: 4-7/8" L: 14-1/2" H: 5-5/8"				
NL-463BG: Gold Adjustable Gimbal with Deep Black Baffle, Gold Ring	NLR-404/50/277	Non-IC Air-Tight Remodel, Mag.	50W MR16 W: 4-7/8" L: 14-1/2" H: 5-5/8"				
NL-463BN: Natural Metal Adjustable Gimbal with Deep Black Baffle, Natural Metal Ring	NLR-404AT/TEL	Non-IC Air-Tight Remodel, Elec.	50W MR16 W: 4-7/8" L: 14-1/2" H: 5-5/8"				
NL-463BW: White Adjustable Gimbal with Deep Black Baffle, White Ring	NI B-404/75	Non-IC Remodel Magnetic	75W MR16 W: 4-7/8 L: 14-1/2 H: 5-5/8				
NL-463BZ: Bronze Adjustable Gimbal with Deep Black Baffle, Bronze Ring	NLR-404/75/277	Non-IC Remodel, Magnetic	75W MR16 W: 4-7/8" L: 14-1/2" H: 6-3/8"				
NL-463C0: Copper Adjustable Gimbal with Deep Black Baffle, Copper Ring	NLR-404/75/1EL	Non-IC Remodel, Electronic	75W MR16 W: 4-7/8" L: 14-1/2" H: 6-3/8"				
NL-463WB: Black Adjustable Gimbal with Deep White Baffle, Black Ring	NLR-404/75/2EL	Non-IC Remodel, Electronic	75W MR16 W: 4-7/8" L: 14-1/2" H: 6-3/8"				
Int-405WG: Chrome Adjustable Gimbal with Deep White Balfle, Chrome Ring	NLR-405AT/20	Non-IC Air-Tight Remodel	20W MR16 W: 4-3/4" L: 4-3/4" H: 4-1/4"				
INL-40-3WG: Gold Adjustable Gimbal with Deep White Baffle, Gold Ring	NLR-405AT/37	Non-IC Air-Tight Remodel	37W MR16 W: 4-3/4" L: 4-3/4" H: 4-1/4"				
Inc-400WW: White Adjustable Gimbal with Deep White Baffle, White King	NLR-405AT	Non-IC Air-Tight Remodel	50W MR16 W: 4-3/4" L: 4-3/4" H: 4-1/4"				



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