



D2
LED

2" LED RECESSED DOWNLIGHTS



 **prescolite**
ABOVE AND BEYOND

Architektür

D2
LED

2" LED RECESSED DOWNLIGHTS



TABLE OF CONTENTS

Introduction	2-3	Color Consistency	10
Anatomy of D2LED	4	Color Saturation	11
Patent Pending J-Tube	5	D2LED Compared to Traditional Sources	12-13
Challenging the Downlight Paradigm	6	Installation/Servicing	14-15
Xicato Module	7	D2LED Wall Wash	16-17
Xicato XSM Technology	8	Photometry	18-20
Thermal Design	9	Catalog Logic	21



2" LED RECESSED DOWNLIGHTS

PRESCOLITE'S REVOLUTIONARY 2" LED DOWNLIGHT – D2LED

Until recently, small aperture 2" LED products were only suitable for niche or accent lighting. With Prescolite's revolutionary 2" LED downlight – D2LED – it's now possible to experience a new dimension in lighting design for commercial applications.

Designed around the precision Xicato brand light engine, D2LED offers the opportunity to create clean ceilings with minimal obtrusiveness, while providing general, workable light output in new construction and retrofit applications, such as:

LOBBIES



PROFESSIONAL / OFFICES



HOSPITALITY



D2LED can also provide task and accent lighting levels.

D2LED – CREATED TO MEET THE NEEDS OF THE LIGHTING DESIGN & ARCHITECTURAL COMMUNITY

With D2LED, lighting designers, and architects can have it all – minimal aperture size, efficiency and premium optics – when lighting highly aesthetic environments.

UNOBTRUSIVE

Designers can create clean ceilings with minimal obtrusiveness.

FLEXIBLE

One fixture is designed to work in new construction or retrofit.

RETAIL



LOUNGE OR BAR AREAS IN RESTAURANTS

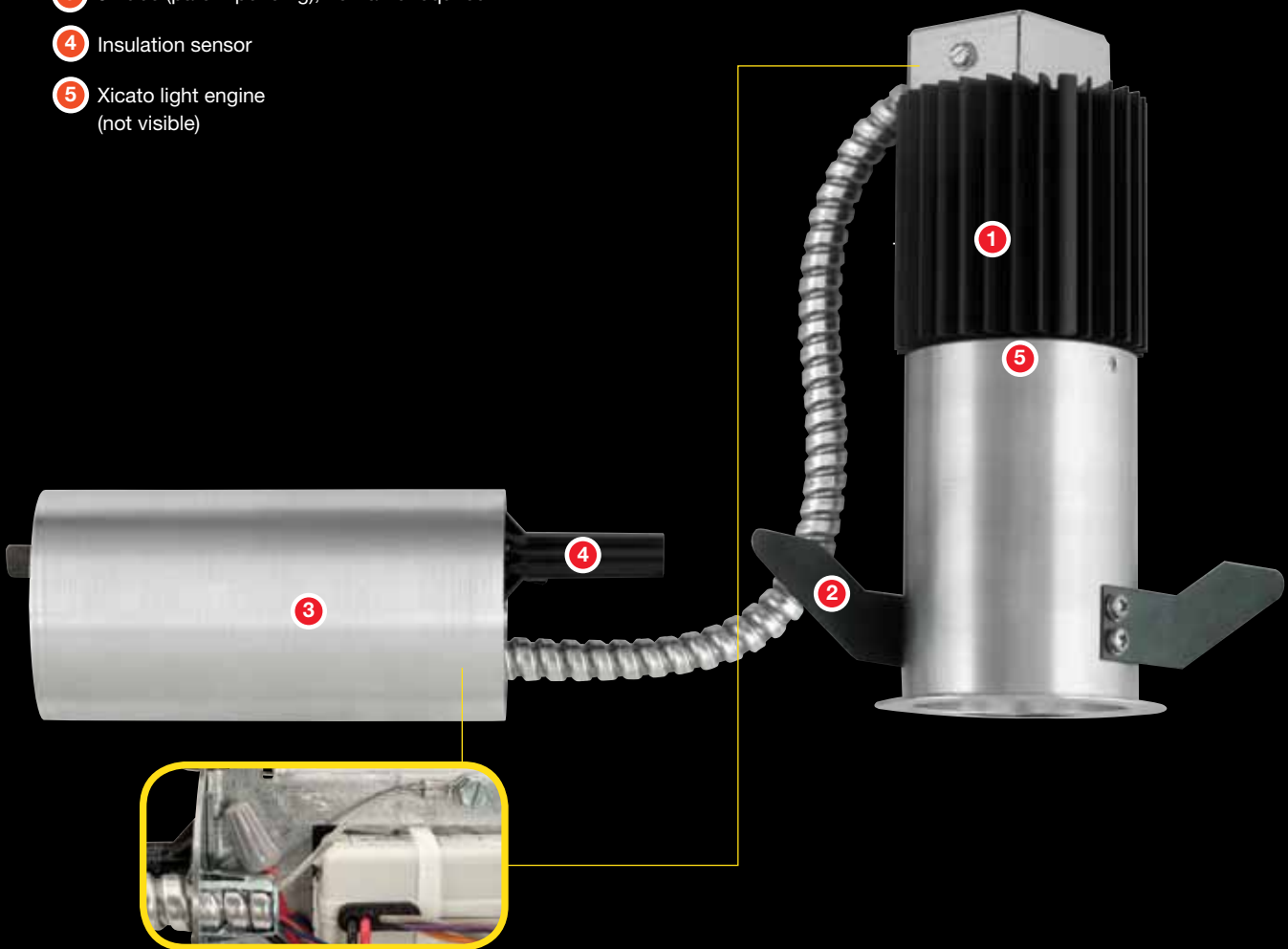


HIGH-END RESIDENTIAL



ANATOMY

- ① Heat sink
- ② Fixture retention springs
- ③ J-Tube (patent pending), no frame required
- ④ Insulation sensor
- ⑤ Xicato light engine (not visible)



D2LED also features a strain relief cable, to prevent any undue pressure from being placed on wire connections.

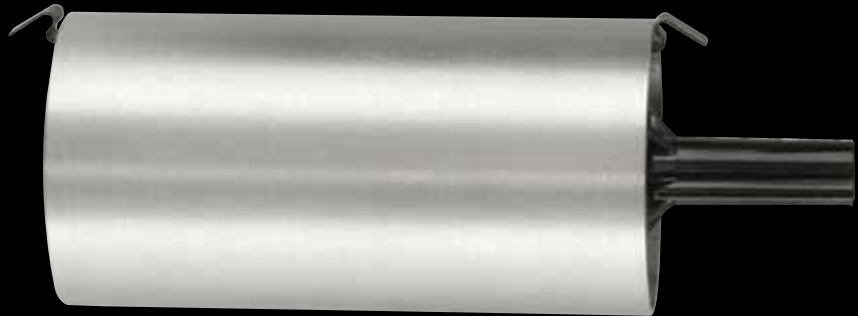
PATENT PENDING J-TUBE

Prescolite's patent pending J-Tube design:



Features ability to through branch (2 in/2 out).

Arlington connector not shipped with fixture



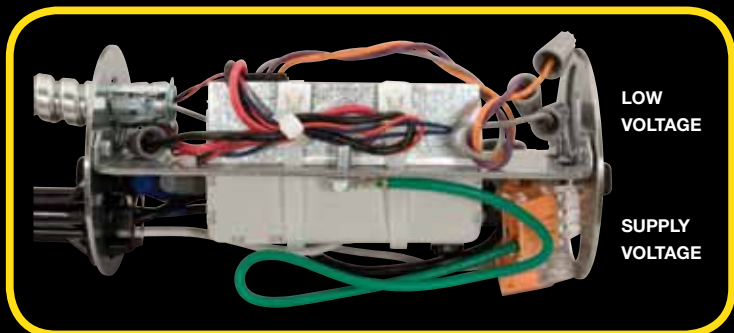
Insulation detector provides thermal protection



Accessible/removable from below ceiling



Quick connects



LOW
VOLTAGE

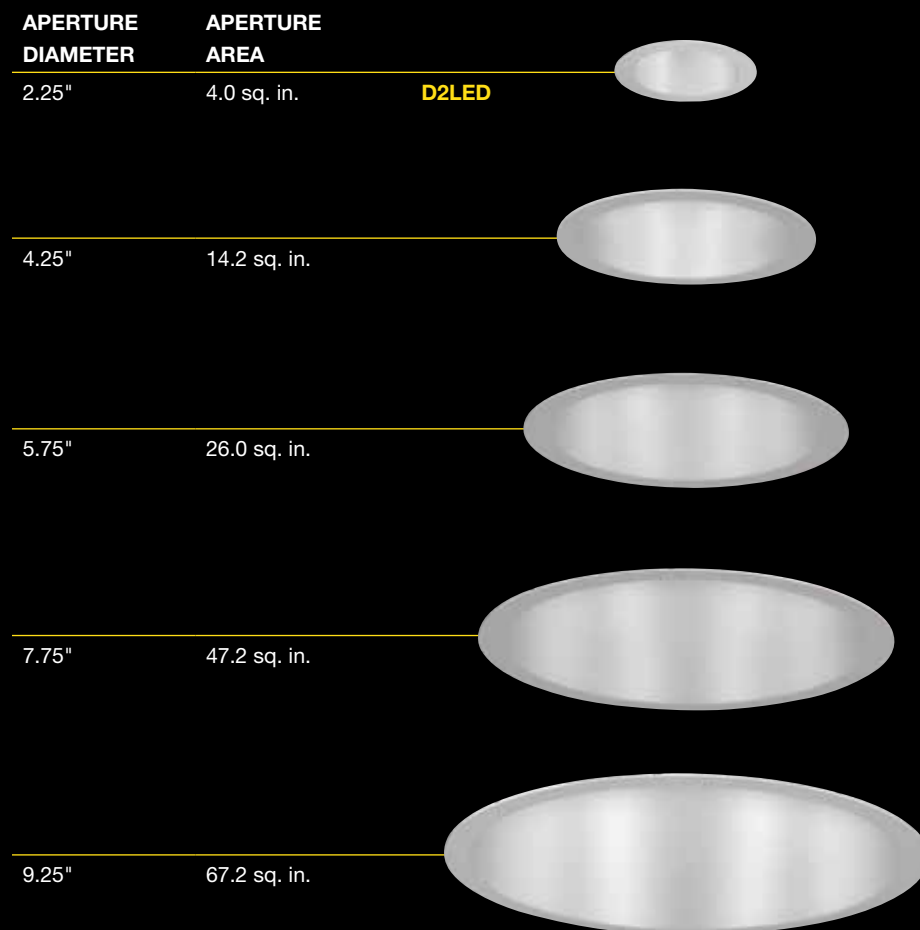
SUPPLY
VOLTAGE

Provides for separation of line and low voltages

CHALLENGING THE DOWNLIGHTING PARADIGM

The directional nature of the Lambertian distribution of the Xicato remote phosphor LED module provides a unique opportunity to challenge the traditional lighting design model that uses larger aperture downlights.

View the comparison chart below to see how D2LED compares to other downlighting solutions.



It's now possible to create clean ceilings with minimal obtrusiveness using a nominal 2" aperture downlight, while also providing high lumen output (858 delivered lumens) for general applications.



XICATO MODULE

D2LED is designed around the premium Xicato light engine that:

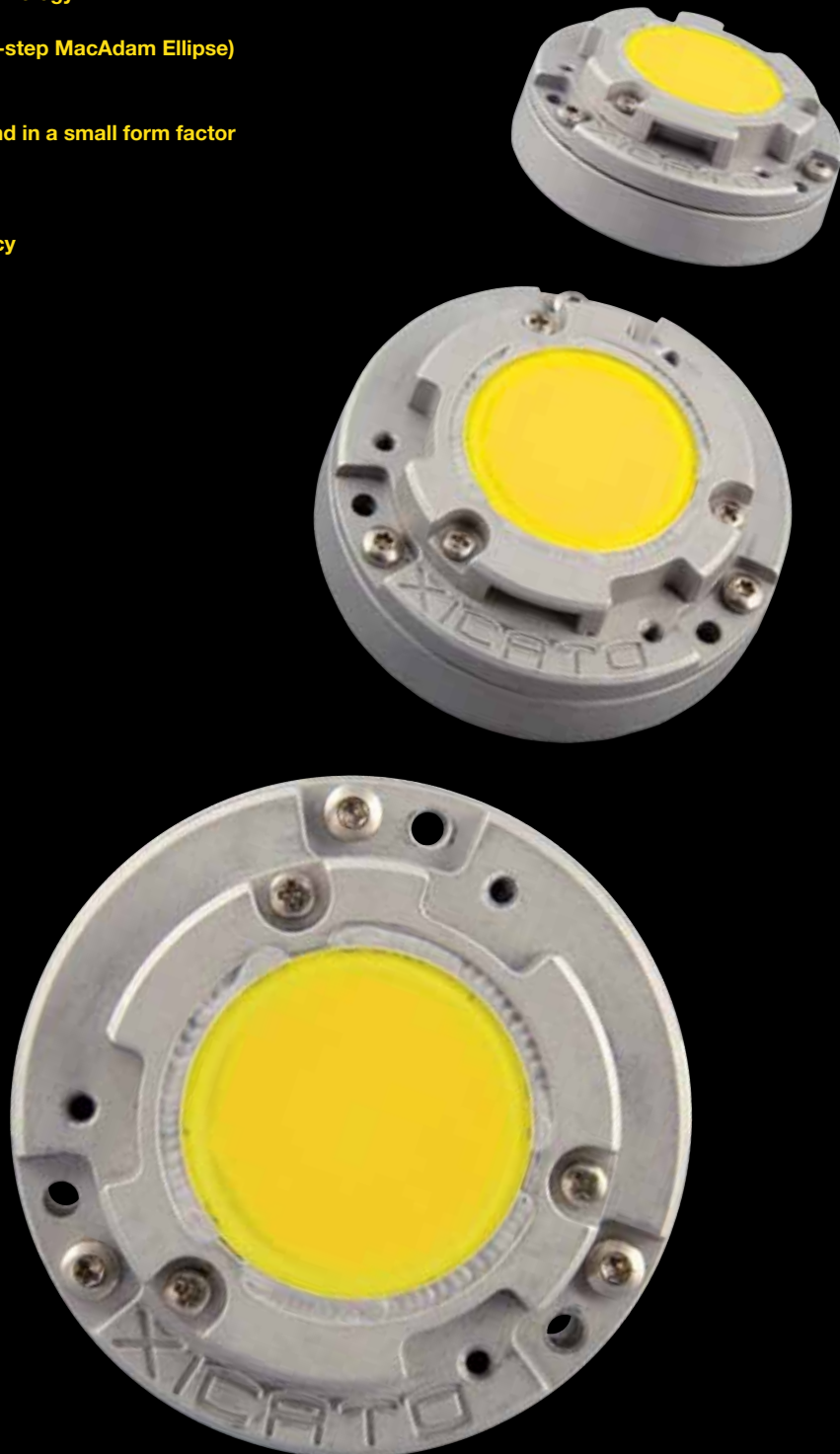
Uses remote phosphor technology

Offers color consistency (2-step MacAdam Ellipse)
from fixture to fixture

Is thermally manageable and in a small form factor

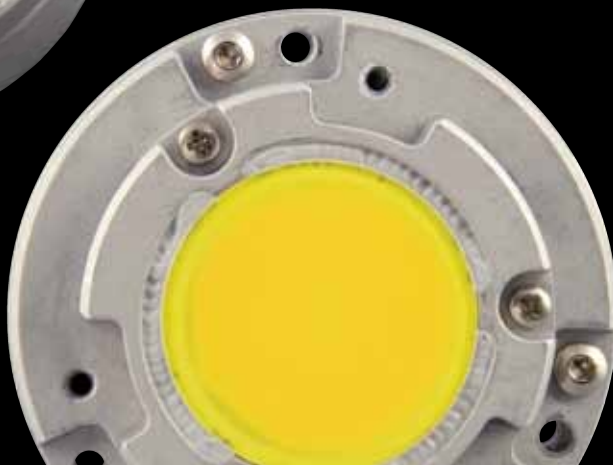
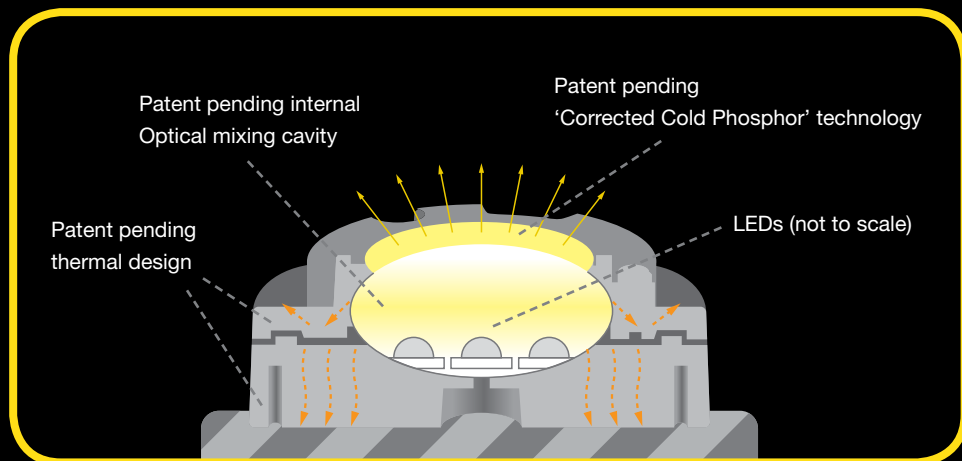
IP66 rated wet location

Features optical consistency



XICATO XSM TECHNOLOGY

The color corrected cold phosphor technology matches blue LEDs to a phosphor disk to lock in color and provide lighting professionals with the consistency required for architectural applications.



THERMAL DESIGN



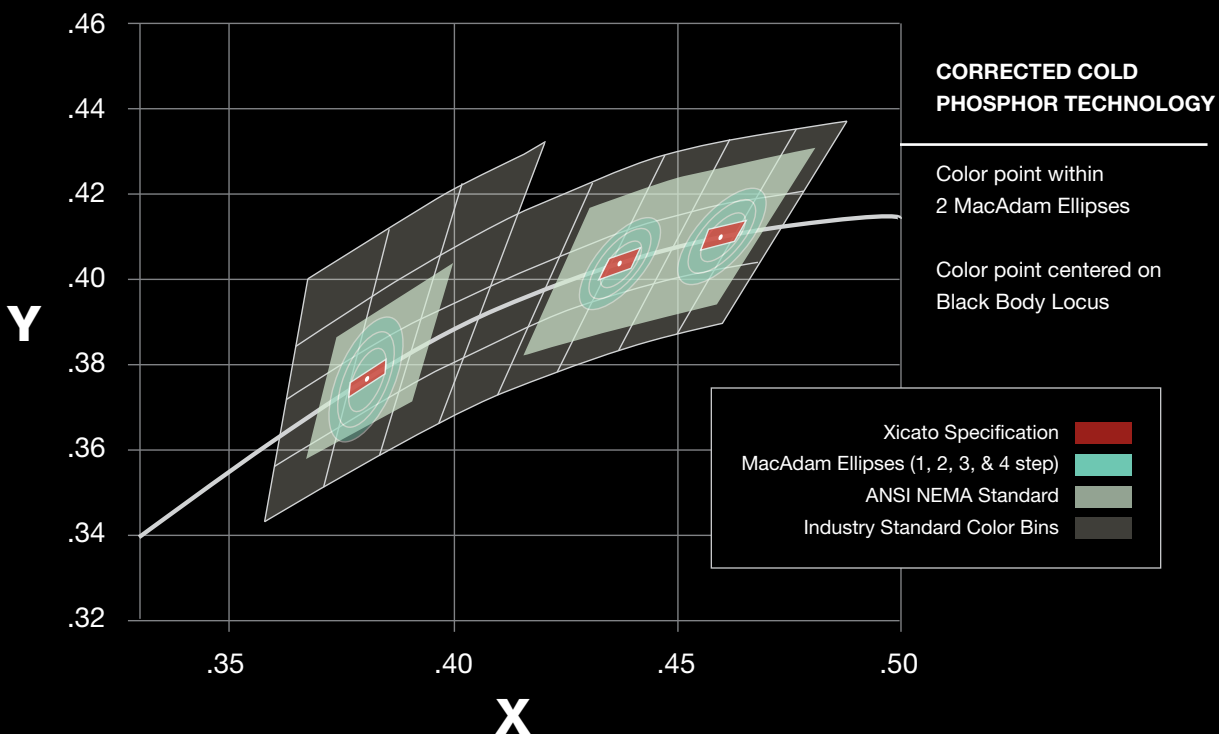
168 square inches of heat sink surface area

LED module operates 20° C under Xicato's LM80 maximum fast point with free air flow around the heat sink.

Prescolite's heat sink features a state-of-the-art design for optimal thermal management. The design provides consistent unrestricted heat flow from the source to the air. This ensures maximum life and consistent color over the fixture's lifespan.

COLOR CONSISTENCY

The D2LED satisfies the exacting requirements of architectural applications by maintaining color consistency.



WHAT DOES A 2-STEP MACADAM ELLIPSE MEAN?



Both of these apples are red, but do they really look the same?

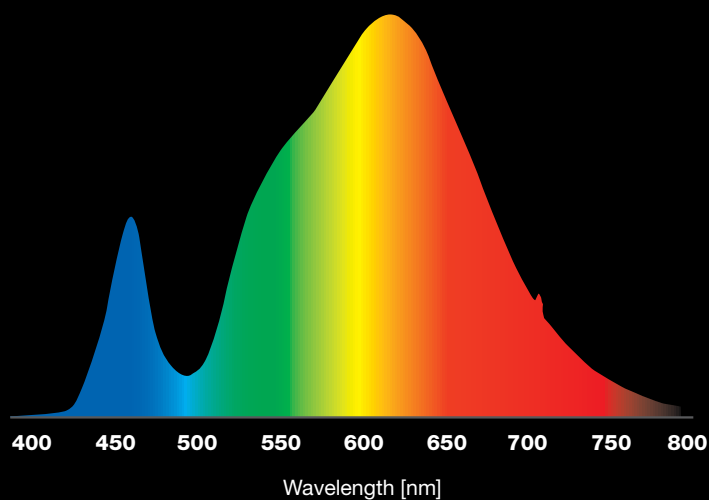


Within a 2-step MacAdam Ellipse, all your apples are the same.

COLOR SATURATION

The D2LED has precise color levels and maintains R9 Values greater than 15, which matches some traditional sources.

XICATO SPECTRAL DISTRIBUTION



XICATO CRI R-VALUES

	RA	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15
D2LED 80CRI	81	80	85	89	81	78	80	86	66	16	64	79	58	81	93	75
Typical Compact Metal Halide	82	90	94	69	82	81	81	87	71	27	59	62	55	93	78	88
Typical Compact Fluorescent	82	91	93	86	91	89	90	88	70	17	76	91	81	93	92	81
IES Std for CRI																

D2LED COMPARED TO TRADITIONAL SOURCES

D2LED vs. 50W MR16

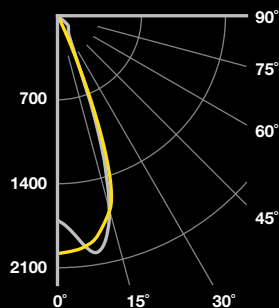
In addition to offering superior optics, D2LED provides flexibility with different beam spreads (25°, 35° and 45°), as well as smooth beam edge and uniformity.

In the chart below, see how D2LED compares to typical 50W MR16 lamp:

VARIABLE	D2LED	MR16
Beam Edge	Smooth	None
Uniformity	Perfect	Irregular and striated
Glare	Low	Wide angle, up to 90
Distribution	Defined	Erratic

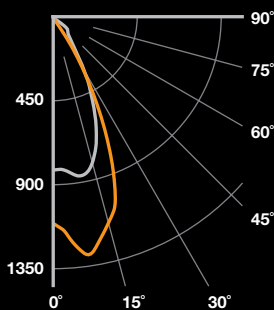
While a handful of small aperture LED products are on the market, none of them have the high output like D2LED – at 858 delivered lumens and 43 lumens per watt.

CANDELA DISTRIBUTION



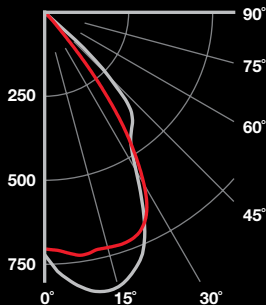
D2LED25°		40° 50W MR16	
DEG	CANDELA	DEG	CANDELA
0	2011	0	1700
5	1985	5	1853
15	1705	15	1650
25	169	25	308
35	10	35	153
45	3	45	125
55	1	55	36
65	0	65	25
75	0	75	22
85	0	85	20
90	0	90	22

CANDELA DISTRIBUTION



D2LED35°		55° 50W MR16	
DEG	CANDELA	DEG	CANDELA
0	1118	0	850
5	1226	5	862
15	1159	15	891
25	658	25	455
35	71	35	167
45	3	45	105
55	1	55	54
65	0	65	15
75	0	75	4
85	0	85	1
90	0	90	0

CANDELA DISTRIBUTION



D2LED45°		26W QUAD / 6" HORIZONTAL CFL	
DEG	CANDELA	DEG	CANDELA
0	721	0	713
5	735	5	792
15	741	15	850
25	710	25	765
35	392	35	493
45	17	45	383
55	3	55	15
65	1	65	1
75	0	75	0
85	0	85	0
90	0	90	0



D2LED 25°



40° 50W MR16



D2LED 35°



55° 50W MR16



D2LED 45°



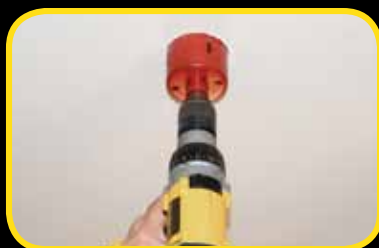
26W QUAD / 6" HORIZONTAL CFL

QUICK AND EASY INSTALLATION

In four easy steps, you can install D2LED in your next lighting design.

Before the ceiling is finished, run wiring to the approximate location where the D2LED will be installed.

STEP 1: MAKE CEILING CUTOUT



Use a 2 7/8" hole saw and pilot drill to cut an opening for the D2LED downlight. Because of the small reflector flange of the D2LED, the accuracy of this hole is critical. Even a 3" hole saw may leave a ceiling cut out too large to be completely hidden after installation.

STEP 2: RUN WIRES TO J-TUBE



Pull the pre-existing wiring below the ceiling and connect to the J-tube assembly through the 1/2" knockout. A 3/8" flex conduit duplex connector may be used to easily daisy chain fixtures together or for end-of-run applications a standard 1/2" connector can be used.

Because D2LED features 0-10 volt dimming capability, be sure to include any low voltage wire connections in this step. When wiring for dimming, the low voltage wiring installs through the adjoining 1/2" knockout. A second 3/8" flex conduit duplex connector may be used in this knock out where applicable.

STEP 3: SLIDE/SNAP J-TUBE CLOSED



Simply slide the J-tube closed until it locks into place with the springs on opposite ends of the assembly to complete the third step.

**STEP 4:
INSTALL FIXTURE INTO CEILING**



Feed J-tube assembly through ceiling cutout. The J-tube assembly has been designed and CSA approved to conveniently lay on top of the ceiling material.

Squeeze retention springs, insert light engine assembly into the cut out, and push until springs pop out above the ceiling, locking the fixture into place.



Once installed, being careful not to leave finger prints on the reflector, gently twist clockwise slightly to secure firmly against ceiling.

REMOVAL FOR SERVICING



While the D2LED is designed with a life expectancy of over 50,000 hours, there may be times when you may need to access the fixture or J-tube assembly. For this reason, the D2LED has been designed to come out of the ceiling as easy as it went in.

Twist reflector slightly counter-clockwise while applying slight downward pressure. Then, once springs are accessible, squeeze together and remove fixture from ceiling.



For emergency egress lighting, D2LED is tested and compatible with Dual-Lite 100VA and 250VA LiteGear® inverters.

LiteGear®

D2LED WALL WASH: A POWERFUL COMBINATION OF UNIFORMITY AND CONTROL

The D2LED wall wash brings all the superior control of the D2LED and combines it with a revolutionary approach to wall washing.

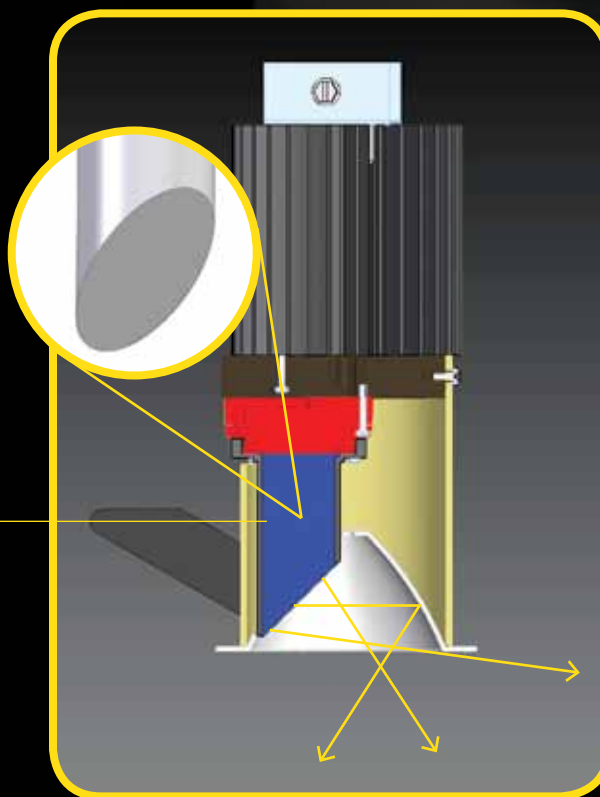
This unique approach to optical design for wall washing, along with the patent-pending mounting method, raises the bar on wall wash performance.

D2LED wall wash yields distributions that outperform most larger aperture specification grade downlights with traditional sources.

LIGHT-PIPE TECHNOLOGY

Prescolite's patent pending Light-pipe technology harnesses the light from the Xicato module and transfers it down into the downlight with minimal degradation, maintaining a clean, highly controlled wall wash.

The cut end of the light-pipe has an exclusive lenticular tooled pattern to direct each individual light ray for perfect optical control.



SMALL APERTURE

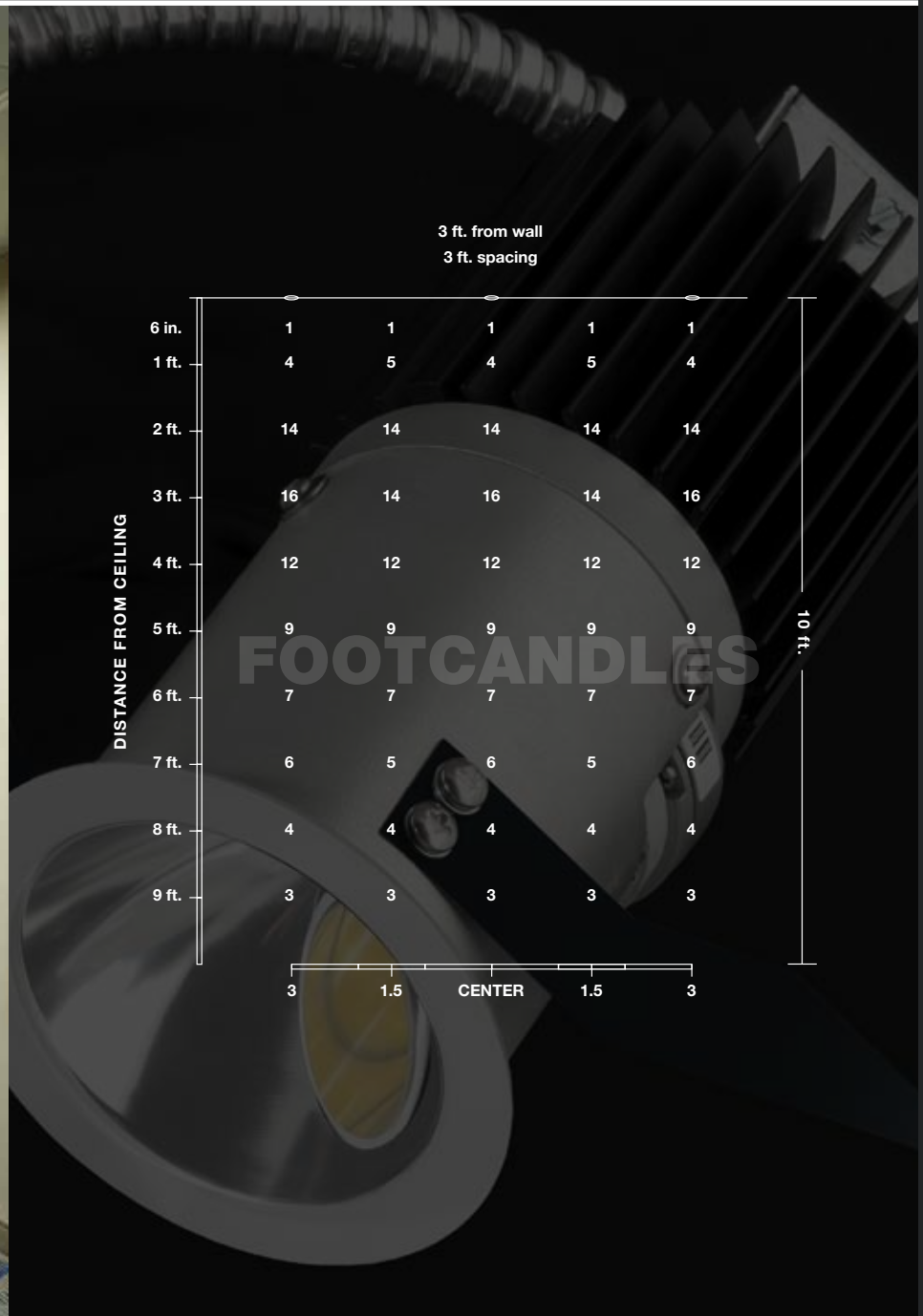
The D2LED wall wash is configured in the same way as the standard D2LED with its signature 2-inch nominal aperture, allowing for a clean ceiling and unobtrusive appearance.

UNIFORMITY

The wall wash configuration of the D2LED maintains the same even light distribution and smooth beam edge that the standard version offers.

CLOSE TO CEILING

The D2LED wall wash illuminates the wall from ceiling to floor, with a quality of light not seen before in this configuration, including a smooth transition close to the ceiling plane.



ROOM SIDE CONTRIBUTION

Not only does the D2LED wall wash perform superior wall washing, but it also incorporates the same superior downlighting to the room-side of the fixture, with no room-side glare, utilizing the same VirtualSource appearance, as the standard D2LED.

XICATO SOURCE

The D2LED wall wash uses the same Xicato LED module found in D2LED to provide superior color saturation and matching.

INSTALLS FROM BELOW

Often times, the wall wash version of a downlight will have a different configuration than standard versions. D2LED wall wash has the same easy-to-install configuration as the standard D2LED downlight.

PHOTOMETRIC DATA

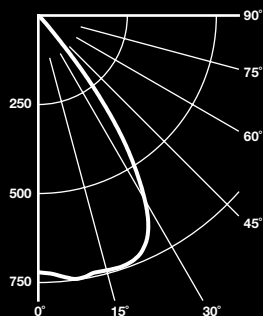
ELECTRICAL DATA	D2LED
Input Voltage	120/277V
Input Frequency	50/60 Hz
Input Current	0.17/0.072
Input Power	20 Watts
Constant Current Output	720mA
Power Factor	≥0.90
EMI Filtering	FCC 47CFR Part 15, Class B
Fixture Operating	
Temperature	-30°C to 45°C
Dimming	0-10V to 10%

Over-voltage, over-current,
(short-circuit protected, and over-temperature
protection with auto recovery)

Lumen Multipliers For Various Alzak Colors	
Clear Specular	1.00
Pewter	0.94
Champagne Gold	0.96
Wheat	0.86
Light Wheat	0.84
Black Alzak	0.62

Note: These values are based upon the WFL45 Reflectors.

D2LED2D9LED30K8WFL45
LED Light Engine: 3000K, 80 CRI
System Wattage: 20
Fixture delivered lumens: 858
Fixture Efficacy: 43
Spacing Criteria: 1.1



CANDELA DISTRIBUTION		
DEG	CANDELA	LUMENS
0	721	
5	735	71
15	741	210
25	710	323
35	392	234
45	17	20
55	3	3
65	1	0
75	0	0
85	0	0
90	0	0

Test No. 4064

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%LUMINAIRE
0-30	604	70.4
0-40	837	97.6
0-60	858	100.0
0-90	858	100.0
90-180	0	0.0
0-180	858	100.0

LUMINANCE DATA IN CANDELA/ SQ. METER	
Angle in Vertical	Average
45°	7589.
55°	1651.
65°	747.
75°	0.
85°	0.

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

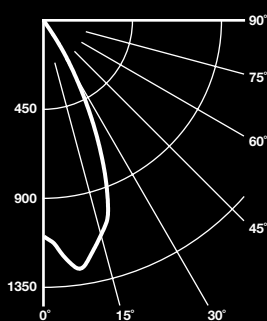
Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																			
	80%				70%				50%				30%				10%			
	20% Effective Floor Cavity Reflectance																			
	% Wall Reflectance																			
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10			
1	114	111	108	106	111	109	106	104	105	103	101	101	99	98	97	96	95			
2	108	103	99	96	106	101	98	95	98	95	93	95	93	91	92	90	89			
3	102	96	91	87	100	95	90	86	92	88	85	90	86	84	87	85	82			
4	97	90	84	80	95	88	83	79	86	82	78	84	81	77	82	79	77			
5	92	84	78	74	90	83	77	73	81	76	73	79	75	72	78	74	71			
6	87	78	72	68	86	78	72	68	76	71	67	75	70	67	73	69	66			
7	83	73	67	63	82	73	67	63	72	66	63	70	66	62	69	65	62			
8	79	69	63	59	77	68	63	59	67	62	58	66	62	58	65	61	58			
9	75	65	59	55	74	64	59	55	63	58	55	63	58	54	62	57	54			
10	71	61	55	51	70	61	55	51	60	55	51	59	54	51	58	54	51			

D2LED2D9LED30K8WFL45

Test No. 4064

D2LED2D9LED30K8FL35

LED Light Engine: 3000K, 80 CRI
System Wattage: 20
Fixture delivered lumens: 810
Fixture Efficacy: 40.5
Spacing Criteria: 0.8



CANDELA DISTRIBUTION		
DEG	CANDELA	LUMENS
0	1118	
5	1226	120
15	1159	326
25	658	298
35	71	67
45	3	3
55	1	0
65	0	0
75	0	0
85	0	0
90	0	0

Test No. 4066

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	744	91.8
0-40	810	100.0
0-60	810	100.0
0-90	810	100.0
90-180	0	0.0
0-180	810	100.0

LUMINANCE DATA IN CANDELA/ SQ. METER

Angle in Vertical	Average
45°	1339.
55°	550.
65°	0.
75°	0.
85°	0.

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

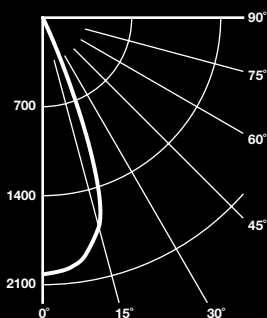
Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																
	80%				70%				50%				30%			10%	
	20% Effective Floor Cavity Reflectance																
	% Wall Reflectance																
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
1	114	112	110	108	112	110	108	106	104	103	102	101	100	99	98	97	96
2	110	105	102	99	107	104	101	98	101	98	96	96	94	95	93	92	91
3	105	100	95	92	103	98	94	91	96	92	90	93	91	89	87	86	85
4	101	94	90	86	99	93	89	86	91	88	85	89	86	84	83	82	81
5	97	90	85	81	95	89	84	81	87	83	80	85	82	79	84	81	79
6	93	85	80	76	91	84	80	76	83	79	76	82	78	75	81	77	75
7	89	81	76	72	88	81	76	72	79	75	72	78	74	72	77	74	71
8	86	77	72	69	85	77	72	69	76	72	69	75	71	68	74	71	68
9	82	74	69	65	81	74	69	65	73	68	65	72	68	65	71	67	65
10	79	71	66	62	78	70	66	62	70	65	62	69	65	62	68	65	62

D2LED2D9LED30K8FL35

Test No. 4066

D2LED2D9LED30K8MD25

LED Light Engine: 3000K, 80 CRI
System Wattage: 20
Fixture delivered lumens: 784
Fixture Efficacy: 39
Spacing Criteria: 0.6



CANDELA DISTRIBUTION		
DEG	CANDELA	LUMENS
0	2011	
5	1985	188
15	1705	462
25	169	126
35	10	7
45	3	2
55	1	0
65	0	1
75	0	0
85	0	0
90	0	0

Test No. 4065

Tested at 25°C Ambient in accordance to IESNA LM-79-2008

ZONAL LUMEN SUMMARY

ZONE	LUMENS	%LUMINAIRE
0-30	775	99.0
0-40	782	99.8
0-60	784	100.0
0-90	784	100.0
90-180	0	0.0
0-180	784	100.0

LUMINANCE DATA IN CANDELA/ SQ. METER

Angle in Vertical	Average
45°	1339.
55°	550.
65°	0.
75°	0.
85°	0.

COEFFICIENTS OF UTILIZATION Zonal Cavity Method

Room Cavity Ratio	% Effective Ceiling Cavity Reflectance																								
	80%					70%					50%					30%					10%				
	20% Effective Floor Cavity Reflectance																								
	% Wall Reflectance																								
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10								
1	115	113	111	109	113	111	109	107	107	105	104	103	102	101	100	99	98								
2	111	107	104	102	109	106	103	101	103	100	98	100	98	96	97	96	94								
3	107	103	99	96	106	101	98	95	99	96	94	97	94	92	94	93	91								
4	104	98	94	91	102	97	94	91	95	92	90	94	91	89	92	90	88								
5	101	95	90	87	99	94	90	87	92	89	86	91	88	86	89	87	85								
6	98	91	87	84	96	90	86	84	89	86	83	88	85	83	87	84	82								
7	95	88	84	81	94	87	83	80	86	83	80	85	82	80	84	81	79								
8	92	85	81	78	91	85	81	78	84	80	77	83	79	77	82	79	77								
9	89	82	78	75	88	82	78	75	81	77	75	80	77	75	80	77	74								
10	87	80	76	73	86	79	75	73	79	75	73	78	75	72	77	74	72								

D2LED2D9LED30K8MD25

Test No. 4065

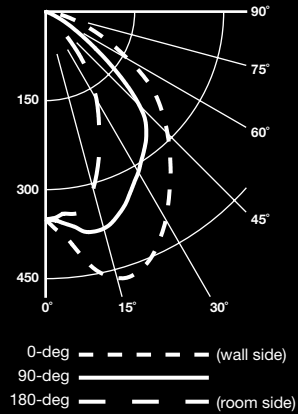
NOTES

Refer to www.prescolite.com for additional photometric tests (IES Files).

PHOTOMETRIC DATA

D2LED2D9LED30K8WW

LED Light Engine: 3000K, 80 CRI
System Wattage: 18.9W
Fixture Delivered Lumens: 714
Fixture Efficacy: 38



CANDELA DISTRIBUTION

DEG	0.0	90.0	180.0
0	345	345	345
5	375	353	347
15	458	373	237
25	434	332	305
35	359	284	210
45	286	220	122
55	211	86	5
65	112	20	0
75	43	0	0
85	0	0	0
90	0	0	0

LUMINANCE DATA IN CANDELA/SQ. METER

Angle in Vertical	0 DEG	90 DEG	180 DEG
45°	199483	153449	3487
55°	181433	73949	0
65°	130706	23340	0
75°	81940	0	0
85°	0	0	0



2' DISTANCE FIXTURE MOUNTED OUT FROM WALLS

FOOTCANDLE DISTRIBUTION ON WALL SURFACE

	12	9	5	2	1	14	13	14	13	9	13
.5	14	11	6	3	1	18	17	18	16	12	16
1	17	13	8	4	2	24	23	24	20	17	20
2	15	13	9	5	2	24	22	24	19	17	19
3	10	9	6	4	3	18	17	18	15	13	15
4	6	5	4	3	2	12	12	12	10	10	10
5	4	4	3	3	2	9	9	9	8	7	8
6	3	3	2	2	2	7	6	7	6	6	6
7	2	2	2	2	1	5	5	5	4	4	4
8	2	1	1	1	1	4	4	4	3	3	3
9											

D2LED2D9LED30K8WW

Test No. 4542

Test No. 4542

Tested at 25°C Ambient in accordance to IESNA LM-79-2008



D2LED



D2LED WALL WASH

D2LED CATALOG LOGIC

SPECIFICATION INFORMATION

ORDERING EXAMPLE: D2LED2D9LED30K8WFL45

J-TUBE ASSEMBLY	VOLTAGE	LIGHT ENGINE	LED COLOR	CRI	BEAM ANGLE	REFLECTOR FINISH	REFLECTOR COLOR	REFLECTOR OPT.	ACCESSORIES
D2LED 2" J-tube assembly with 0-10 Dimming Standard	BLANK 120V 277V 277V	2D9LED² 2" Open Reflector/ Light Engine Assembly with Xicato 1300 Lumen module	30K 27K 2700 Kelvin 30K 3000 Kelvin 35K 3500 Kelvin 40K 4000 Kelvin	8 Nominal 80+ CRI	WFL45 Spun Aluminum reflector with a 45° wide flood distribution FL35 Spun Aluminum reflector with 35° flood distribution MD25 Spun Aluminum reflector with 25° medium distribution WW Wall Wash	Blank Specular SS Semi-Specular MFC American Matte™	Blank Clear Alzak CG Champagne Gold Alzak BL Black Alzak WE Wheat Alzak LW Light Wheat Alzak PW Pewter Alzak WH¹ White Paint	WT White Trim	LG1S³ Dual-Lite 100VA Surface Wall Mount LiteGear Emergency Lighting Inverter LG1R³ Dual-Lite 100VA Recessed Wall Mount LiteGear Emergency Lighting Inverter LG1T³ Dual-Lite 100VA Recessed Ceiling T-Grid LiteGear Emergency Lighting Inverter LG2S³ Dual-Lite 250VA Surface Wall Mount LiteGear Emergency Lighting Inverter

NOTES

¹Requires WT option.

²Utilizes the Xicato 1300 Lumen XSM module. Driven to yield 1000 Lumens.

³See spec sheet for D2LED & LiteGear compatibility Matrix.



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