

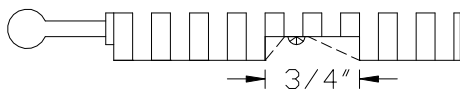
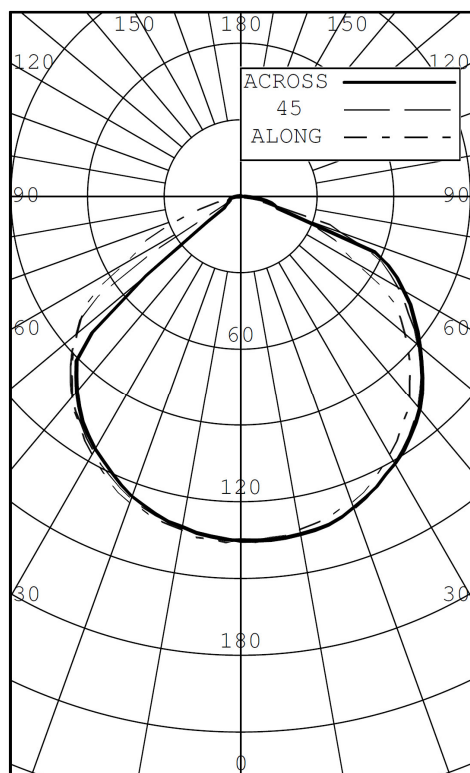


INDEPENDENT TEST LABORATORY REPORT No. 28089

FINELITE INC - REACH LED DESK LAMP LUMINAIRE, CAT# DL-R-VI-X-B-PS-8W
WITH WHITE INTERIOR AND NO LENS

FOUR LEDS. LUMINAIRE OUTPUT = 359 LMS.

LUMINAIRE OPERATING AT 120 VAC AND 7.5 WATTS



ANGLE	INTENSITY (CANDLEPOWER) SUMMARY					OUTPUT LUMENS
	BEAM SIDE	67.5	45	22.5	ACROSS	
0	ALONG	135	135	135	135	
5		135	135	135	136	7
10		133	134	134	135	
15		131	133	133	134	19
20		128	130	131	130	
25		123	125	126	126	29
30		117	120	121	121	
35		110	114	115	116	36
40		103	106	108	109	
45		94	98	100	101	38
50		84	88	90	91	
55		74	78	80	82	36
60		52	66	71	73	
65		41	45	61	64	27
70		24	33	42	34	
75		10	18	14	13	9
80		4	7	9	10	
85		2	4	4	5	2
90		0	0	0	0	

BOTH SIDES ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	107	29.78
0-40	177	49.25
0-60	308	85.77
0-90	359	100.00
40-90	182	50.75
60-90	51	14.23
90-180	0	0.00
0-180	359	100.00

EFFICACY (LUMENS PER WATT): 47.9

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 1.187 INS
WIDTH: 0.750 INS

LUMINANCE SUMMARY - CD./SQ.M.

ANGLE	BEAM SIDE		
	ALONG	45	ACROSS
45	231452	247416	248610
55	224626	244493	252078
65	168910	252341	263864
75	67270	96998	94336
85	39954	83430	89648

CERTIFIED BY:

Ryder Tannay

DATE:

NOV 12, 2010

PREPARED FOR:

FINELITE INC
UNION CITY, CA

TESTED IN ACCORDANCE WITH IES PROCEDURES.

LIGHTING SCIENCES, INC.
7826 E. EVANS RD.
SCOTTSDALE, AZ, USA 85260

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BEAM SIDE
INTENSITY(CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	PLANE					AVERAGE	OUTPUT LUMENS
	ALONG	67.5	45	22.5	ACROSS		
0.0	135	135	135	135	135	135	
2.5	136	135	135	135	135	135	
5.0	135	135	135	135	136	135	7
7.5	135	135	135	135	135	135	
10.0	133	134	134	135	135	134	
12.5	132	133	134	134	134	134	
15.0	131	133	133	134	134	133	19
17.5	129	131	132	132	132	132	
20.0	128	130	131	130	130	130	
22.5	126	128	129	128	128	128	
25.0	123	125	126	126	126	125	29
27.5	120	123	124	124	123	123	
30.0	117	120	121	121	121	120	
32.5	114	118	118	118	119	118	
35.0	110	114	115	116	116	115	36
37.5	107	111	112	112	113	111	
40.0	103	106	108	109	109	107	
42.5	98	102	104	105	105	103	
45.0	94	98	100	100	101	99	38
47.5	89	93	96	96	96	94	
50.0	84	88	90	91	92	89	
52.5	79	84	86	87	87	85	
55.0	74	78	80	82	83	80	36
57.5	65	73	76	78	79	75	
60.0	52	66	71	73	74	68	
62.5	45	53	66	68	69	61	
65.0	41	45	61	64	64	56	27
67.5	32	41	53	58	57	49	
70.0	24	33	42	34	23	33	
72.5	17	26	37	16	15	24	
75.0	10	18	14	13	14	15	9
77.5	5	11	11	13	13	11	
80.0	4	7	9	10	10	8	
82.5	3	5	7	8	8	6	
85.0	2	4	4	5	4	4	2
87.5	1	1	2	2	2	1	
90.0	0	0	0	0	0	0	

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LUMINAIRE OPERATING AT 120 VAC AND 7.5 WATTS

BEAM SIDE
AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	67.5	45	22.5	ACROSS
0	235273 (68668)	235273 (68668)	235273 (68668)	235273 (68668)	235273 (68668)
30	235219 (68652)	242778 (70858)	243390 (71037)	244218 (71278)	243987 (71211)
40	234100 (68325)	242526 (70784)	245927 (71777)	247344 (72191)	247660 (72283)
45	231452 (67552)	241091 (70366)	247416 (72212)	247957 (72370)	248610 (72560)
50	227526 (66406)	240602 (70223)	244968 (71497)	247256 (72165)	247953 (72368)
55	224626 (65560)	237979 (69457)	244493 (71359)	250712 (73174)	252078 (73572)
60	181072 (52848)	231466 (67556)	247283 (72173)	255916 (74693)	256143 (74759)
65	168910 (49298)	186959 (54566)	252341 (73649)	262756 (76689)	263864 (77012)
70	122174 (35658)	167004 (48742)	215262 (62827)	173765 (50716)	114561 (33436)
75	67270 (19633)	123494 (36043)	96998 (28310)	90871 (26522)	94336 (27533)
80	40106 (11705)	66725 (19474)	90501 (26414)	104565 (30518)	104417 (30475)
85	39954 (11661)	72304 (21103)	83430 (24350)	98286 (28686)	89648 (26165)

LUMINOUS LENGTH: 1.187 INS
WIDTH: 0.750 INS

INDEPENDENT TEST LABORATORY REPORT No. 28089

OPPOSITE SIDE TO BEAM
INTENSITY(CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	PLANE					AVERAGE	OUTPUT LUMENS
	ALONG	112.5	135	157.5	ACROSS		
0.0	135	135	135	135	135	135	6
2.5	136	135	134	135	135	135	
5.0	135	134	134	134	134	134	
7.5	135	133	133	133	133	133	
10.0	133	133	133	132	132	133	
12.5	132	131	131	131	131	131	
15.0	131	130	130	130	129	130	18
17.5	129	128	128	128	127	128	
20.0	128	127	126	126	125	126	
22.5	126	124	124	123	123	124	
25.0	123	122	121	121	120	121	
27.5	120	120	119	118	117	119	
30.0	117	116	116	115	114	116	28
32.5	114	113	113	112	111	113	
35.0	110	110	109	109	108	109	
37.5	107	106	107	105	104	106	
40.0	103	103	103	101	100	102	
42.5	98	99	99	97	96	98	
45.0	94	94	94	92	91	93	35
47.5	89	90	90	87	79	88	
50.0	84	86	84	65	49	75	
52.5	79	81	80	33	17	61	
55.0	74	76	68	9	8	49	
57.5	65	71	41	8	7	39	
60.0	52	61	11	7	6	27	22
62.5	45	48	7	6	6	22	
65.0	41	43	6	5	6	19	
67.5	32	33	6	5	5	16	
70.0	24	11	5	5	5	9	
72.5	17	5	5	5	5	7	
75.0	10	4	5	4	4	5	3
77.5	5	4	4	4	4	4	
80.0	4	3	4	4	4	4	
82.5	3	3	3	3	3	3	
85.0	2	1	2	2	2	2	
87.5	1	0	0	1	0	0	
90.0	0	0	0	0	0	0	1

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LUMINAIRE OPERATING AT 120 VAC AND 7.5 WATTS

OPPOSITE SIDE TO BEAM
AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	112.5	135	157.5	ACROSS
0	235273 (68668)	235273 (68668)	235273 (68668)	235273 (68668)	235273 (68668)
30	235219 (68652)	234534 (68452)	233100 (68033)	231472 (67558)	230047 (67142)
40	234100 (68325)	234191 (68352)	234486 (68438)	230904 (67392)	227627 (66436)
45	231452 (67552)	232700 (67916)	233291 (68089)	227885 (66511)	225318 (65762)
50	227526 (66406)	233834 (68248)	228316 (66637)	176887 (51627)	131888 (38493)
55	224626 (65560)	232495 (67857)	208427 (60832)	26989 (7877)	23605 (6889)
60	181072 (52848)	211940 (61858)	40018 (11680)	23853 (6962)	21846 (6376)
65	168910 (49298)	176171 (51418)	26462 (7723)	22569 (6587)	23319 (6806)
70	122174 (35658)	58263 (17005)	27232 (7948)	25915 (7563)	25213 (7359)
75	67270 (19633)	29844 (8710)	31306 (9137)	30176 (8807)	30187 (8810)
80	40106 (11705)	31189 (9103)	35535 (10371)	35450 (10346)	37946 (11075)
85	39954 (11661)	27496 (8025)	37136 (10838)	32592 (9512)	38711 (11298)

LUMINOUS LENGTH: 1.187 INS
WIDTH: 0.750 INS

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LUMINAIRE OPERATING AT 120 VAC AND 7.5 WATTS

ELECTRICAL MEASUREMENTS

INPUT VOLTAGE:	120.0	VOLTS AC
INPUT CURRENT:	0.063	AMPS
INPUT POWER:	7.5	WATTS
POWER FACTOR:	99.2	PERCENT
TOTAL HARMONIC		
DISTORTION:	10.84	PERCENT
OFF STATE POWER:	0.00	WATTS

LIGHT OUTPUT

LUMENS:	359	lm
EFFICACY:	47.9	lm/W

SPECTRAL MEASUREMENTS

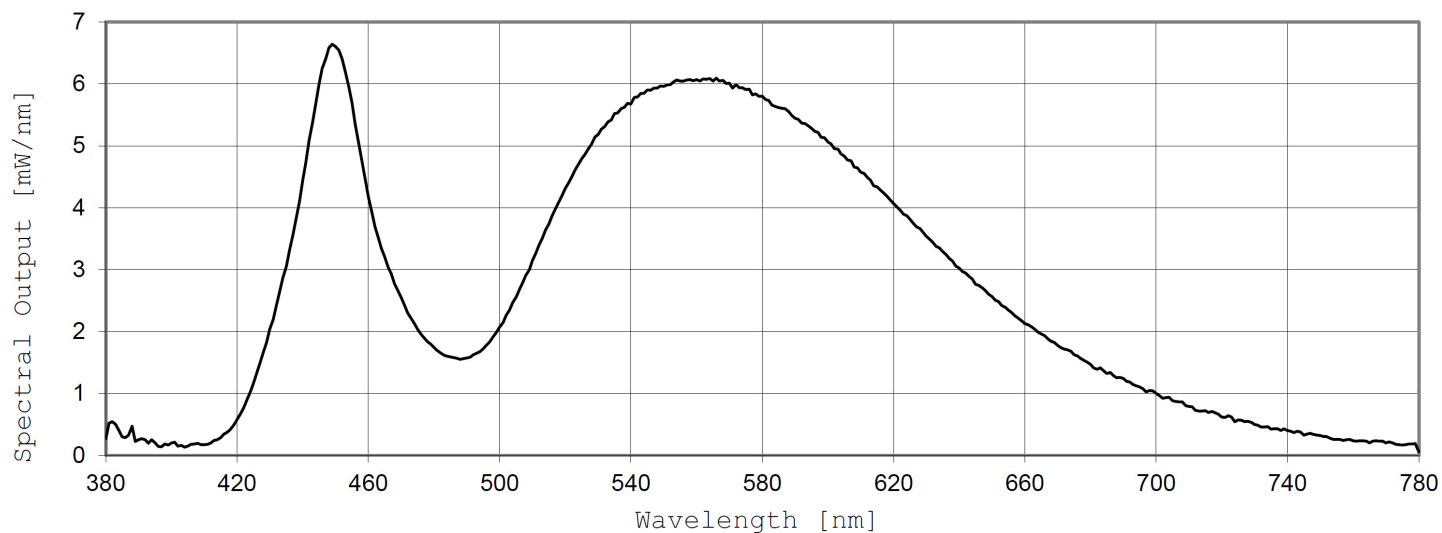
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y:	0.3812	
u/u':	0.2357	
v:	0.3376	
v':	0.5063	
Duv:	0.0029	
CRI (R _a) :	82.3	
CRI (R ₉) :	26.9	
CCT:	3554	K
RADIANT FLUX:	1080	mW

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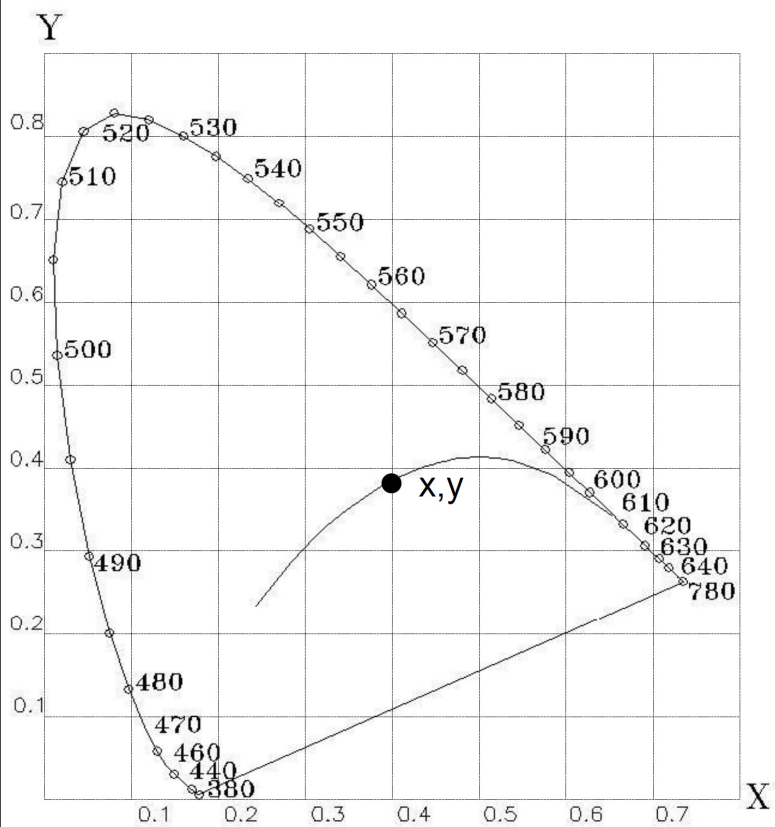
Spectral Power Distribution



Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.27057	590	5.44506
390	0.25293	600	5.06295
400	0.20035	610	4.57743
410	0.17071	620	4.06551
420	0.57661	630	3.54299
430	2.03773	640	3.02739
440	4.43744	650	2.56934
450	6.60001	660	2.13055
460	4.18126	670	1.77528
470	2.54532	680	1.46869
480	1.74477	690	1.23934
490	1.57190	700	1.00329
500	2.06954	710	0.79190
510	3.15266	720	0.61729
520	4.30827	730	0.49591
530	5.18066	740	0.40287
540	5.67310	750	0.32347
550	5.95806	760	0.23735
560	6.06927	770	0.20403
570	6.01042	780	0.05820
580	5.80054		

CIE 1931 Chromaticity Diagram



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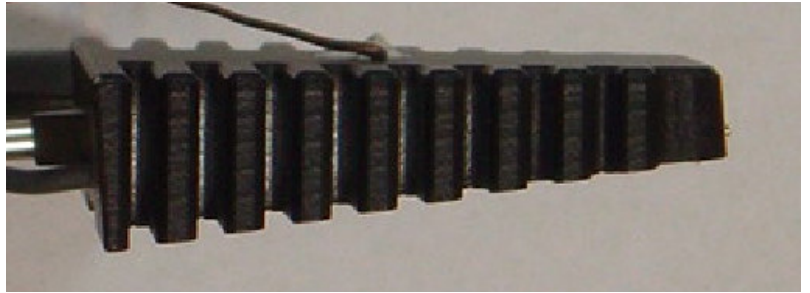
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LUMINOUS OPENING



SIDE VIEW



All testing was conducted in accordance with LM-79-08,

Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products as published by the Illuminating Engineering Society of North America (IESNA).

The condition of the item tested was new. Stabilization time before testing exceeded 16 hours.

The test results (luminous distribution and flux) were obtained by using a Lighting Sciences series 6000 Type C Moving Mirror Goniophotometer

- The photometric reference standard used is a set of three incandescent luminous intensity standard lamps calibrated and traceable to the U.S. National Institute of Standards and Technology.

The test results (colorimetric and luminous flux) were obtained by using a Lighting Sciences model 4000 Integrating Sphere of either 1 or 2 meters diameter, having an internal reflectance exceeding 0.80. 4π geometry was used. Correction factors were applied for spectral mismatch and self-absorption. The spectroradiometer employed was a LSC model 500E having a bandwidth of .84.

- The photometric reference standard used is a set of three incandescent luminous flux standard lamps calibrated and traceable to the U.S. National Institute of Standards and Technology.
- The colorimetric reference standard used is an incandescent spectral standard lamp calibrated and traceable to the U.S. National Institute of Standards and Technology.

Power measurements were obtained with a Yokogawa WT210 power analyzer.

Ambient temperature during testing was $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured using an Omega model DP460.

Calibration certificates are on file at the laboratories of Lighting Sciences Inc.