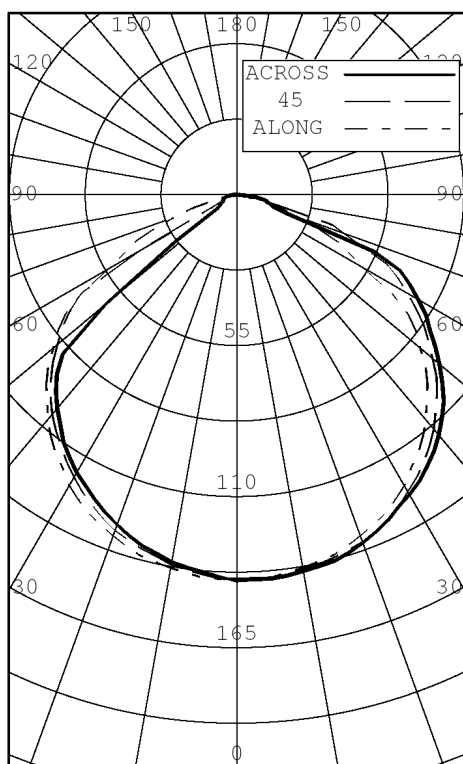




INDEPENDENT TEST LABORATORY REPORT No. 28083

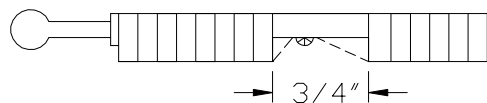
FINELITE INC - REACH LED DESK LAMP LUMINAIRE, CAT# DL-R-VE-X-B-PS-8W
WITH WHITE INTERIOR AND NO LENS
FOUR LEDS. LUMINAIRE OUTPUT = 371 LMS.
LUMINAIRE OPERATING AT 120 VAC AND 7.5 WATTS



INTENSITY (CANDLEPOWER)				SUMMARY		OUTPUT LUMENS
ANGLE	ALONG	BEAM	SIDE	22.5	ACROSS	
0	140	140	45	140	140	7
5	140	140	140	140	140	
10	138	139	139	139	139	
15	136	136	137	138	138	19
20	132	133	134	134	135	30
25	128	129	130	130	131	
30	122	124	125	125	126	
35	115	117	119	120	121	37
40	107	109	111	113	114	39
45	98	100	103	104	106	
50	87	90	93	95	96	
55	76	79	83	84	86	36
60	53	65	72	75	76	27
65	41	45	60	64	66	
70	24	31	41	36	18	
75	9	16	16	12	13	9
80	4	6	8	10	10	2
85	2	4	4	5	4	
90	0	0	0	0	0	

BOTH SIDES ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	110	29.69
0-40	182	49.09
0-60	319	86.12
0-90	371	100.00
40-90	189	50.91
60-90	51	13.88
90-180	0	0.00
0-180	371	100.00



EFFICACY (LUMENS PER WATT): 49.5

*** THIS IS AN ABSOLUTE TEST ***

LUMINOUS LENGTH: 1.187 INS
WIDTH: 0.750 INS

LUMINANCE SUMMARY - CD./SQ.M.

BEAM SIDE			
ANGLE	ALONG	45	ACROSS
45	241301	254448	262735
55	230696	252465	260746
65	168910	249506	271112
75	60543	106578	84559
85	39954	84448	87101

CERTIFIED BY:

Ryder Trumey

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

INDEPENDENT TEST LABORATORY REPORT No. 28083

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BEAM SIDE
INTENSITY(CANDLEPOWER) DATA
IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	67.5	45	22.5	ACROSS	AVERAGE	
0.0	140	140	140	140	140	140	7
2.5	140	140	140	140	140	140	
5.0	140	140	140	140	140	140	
7.5	139	140	140	140	140	140	
10.0	138	139	139	139	139	139	19
12.5	137	138	138	138	139	138	
15.0	136	136	137	138	138	137	
17.5	134	135	136	136	136	136	
20.0	132	133	134	134	135	134	30
22.5	130	131	132	132	133	132	
25.0	128	129	130	130	131	130	
27.5	125	126	128	128	128	127	
30.0	122	124	125	125	126	124	37
32.5	118	121	122	123	124	122	
35.0	115	117	119	120	121	118	
37.5	111	113	115	116	118	115	
40.0	107	109	111	113	114	111	39
42.5	102	105	107	109	110	107	
45.0	98	100	103	104	106	102	
47.5	93	96	98	100	101	98	
50.0	87	90	93	95	96	92	36
52.5	82	85	88	90	91	87	
55.0	76	79	83	84	86	82	
57.5	67	74	77	79	81	76	
60.0	53	65	72	75	76	69	27
62.5	46	52	66	70	71	62	
65.0	41	45	60	64	66	56	
67.5	32	41	49	59	54	48	
70.0	24	31	41	36	18	32	9
72.5	17	25	36	14	13	23	
75.0	9	16	16	12	13	14	
77.5	5	9	10	11	11	10	
80.0	4	6	8	10	10	8	2
82.5	3	5	7	7	7	6	
85.0	2	4	4	5	4	4	
87.5	1	1	2	2	1	2	
90.0	0	0	0	0	0	0	

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WITH WHITE INTERIOR AND NO LENS
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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	244288 (71299)	244288 (71299)	244288 (71299)	244288 (71299)	244288 (71299)
30	245271 (71586)	249026 (72681)	251223 (73323)	252050 (73564)	253332 (73938)
40	243191 (70979)	249124 (72710)	253497 (73986)	256663 (74911)	259321 (75686)
45	241301 (70427)	247541 (72248)	254448 (74264)	257931 (75280)	262735 (76683)
50	235651 (68778)	244676 (71412)	251643 (73445)	258225 (75366)	260337 (75983)
55	230696 (67332)	240605 (70224)	252465 (73685)	257131 (75047)	260746 (76102)
60	184555 (53865)	228626 (66727)	249674 (72871)	260705 (76090)	264545 (77211)
65	168910 (49298)	186645 (54475)	249506 (72822)	266535 (77792)	271112 (79128)
70	122174 (35658)	158699 (46318)	211242 (61654)	182188 (53174)	91933 (26832)
75	60543 (17670)	109773 (32038)	106578 (31106)	82127 (23970)	84559 (24679)
80	40106 (11705)	64424 (18803)	84877 (24772)	99719 (29104)	97541 (28468)
85	39954 (11661)	70776 (20657)	84448 (24647)	95739 (27943)	87101 (25421)

LUMINOUS LENGTH: 1.187 INS
WIDTH: 0.750 INS

LIGHTING SCIENCES, INC.
7826 E. EVANS RD.
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INDEPENDENT TEST LABORATORY REPORT No. 28083

FINELITE INC - REACH LED DESK LAMP LUMINAIRE, CAT# DL-R-VE-X-B-PS-8W
WITH WHITE INTERIOR AND NO LENS
FOUR LEDS. LUMINAIRE OUTPUT = 371 LMS.
LUMINAIRE OPERATING AT 120 VAC AND 7.5 WATTS

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	140	140	140	140	140	140	
2.5	140	140	140	140	140	140	
5.0	140	140	139	139	138	139	7
7.5	139	139	138	138	137	138	
10.0	138	138	137	136	136	137	
12.5	137	136	135	134	134	135	
15.0	136	135	134	133	132	134	19
17.5	134	133	132	131	130	132	
20.0	132	131	130	129	128	130	
22.5	130	129	127	126	125	127	
25.0	128	126	125	123	122	125	29
27.5	125	123	122	121	119	122	
30.0	122	120	118	117	117	119	
32.5	118	117	115	114	113	116	
35.0	115	113	111	111	110	112	35
37.5	111	110	108	107	106	108	
40.0	107	106	104	103	102	104	
42.5	102	102	100	98	97	100	
45.0	98	97	96	94	93	95	37
47.5	93	93	91	89	86	90	
50.0	87	88	85	81	62	82	
52.5	82	83	80	56	28	69	
55.0	76	77	74	20	8	53	25
57.5	67	71	67	8	7	46	
60.0	53	57	39	7	7	33	
62.5	46	46	10	6	6	22	
65.0	41	41	7	6	6	19	10
67.5	32	35	6	5	6	16	
70.0	24	23	5	5	5	12	
72.5	17	11	5	5	5	8	
75.0	9	4	5	5	5	5	3
77.5	5	4	4	4	4	4	
80.0	4	3	4	4	4	3	
82.5	3	2	3	3	3	3	
85.0	2	2	2	2	2	2	1
87.5	1	0	1	1	1	1	
90.0	0	0	0	0	0	0	

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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	244288(71299)	244288(71299)	244288(71299)	244288(71299)	244288(71299)
30	245271(71586)	242420(70753)	238731(69677)	236335(68978)	234489(68439)
40	243191(70979)	241368(70447)	237317(69264)	234725(68507)	230745(67346)
45	241301(70427)	239901(70018)	236493(69023)	231272(67500)	228834(66788)
50	235651(68778)	238392(69578)	230862(67380)	221178(64554)	168627(49216)
55	230696(67332)	234194(68353)	226383(66073)	61788(18034)	25153(7341)
60	184555(53865)	199781(58309)	136435(39820)	25095(7324)	23526(6866)
65	168910(49298)	167268(48819)	27197(7938)	23829(6955)	23634(6898)
70	122174(35658)	116656(34047)	26583(7758)	25915(7563)	27153(7925)
75	60543(17670)	29844(8710)	31306(9137)	31376(9157)	31902(9311)
80	40106(11705)	29911(8730)	36302(10595)	35450(10346)	36673(10703)
85	39954(11661)	31060(9065)	33575(9799)	33610(9809)	33618(9811)

LUMINOUS LENGTH: 1.187 INS
WIDTH: 0.750 INS

LIGHTING SCIENCES, INC.
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WITH WHITE INTERIOR AND NO LENS
FOUR LEDS. LUMINAIRE OUTPUT = 371 LMS.
LUMINAIRE OPERATING AT 120 VAC AND 7.5 WATTS

COEFFICIENTS OF UTILIZATION

ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE = .20

CC WALL	90				80				70				50				30				10				0
	70	50	30	10	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																									
0	1.22	1.22	1.22	1.22	1.19	1.19	1.19	1.19	1.16	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00			
1	1.13	1.09	1.05	1.02	1.11	1.07	1.03	1.00	1.08	1.05	1.01	0.98	1.00	0.98	0.95	0.96	0.94	0.92	0.93	0.91	0.90	0.88			
2	1.05	0.98	0.92	0.86	1.02	0.96	0.90	0.85	1.00	0.94	0.89	0.84	0.90	0.86	0.82	0.87	0.84	0.80	0.84	0.81	0.79	0.77			
3	0.97	0.87	0.79	0.73	0.94	0.85	0.78	0.73	0.92	0.84	0.77	0.72	0.81	0.76	0.71	0.78	0.74	0.70	0.76	0.72	0.69	0.67			
4	0.89	0.78	0.70	0.64	0.87	0.77	0.69	0.63	0.85	0.76	0.69	0.63	0.73	0.67	0.62	0.71	0.66	0.61	0.69	0.64	0.60	0.58			
5	0.83	0.70	0.61	0.55	0.81	0.69	0.61	0.55	0.78	0.68	0.60	0.55	0.66	0.59	0.54	0.64	0.58	0.53	0.62	0.57	0.53	0.51			
6	0.76	0.63	0.54	0.48	0.74	0.62	0.54	0.48	0.72	0.61	0.53	0.47	0.59	0.52	0.47	0.58	0.51	0.47	0.56	0.51	0.46	0.44			
7	0.70	0.56	0.48	0.42	0.68	0.55	0.47	0.42	0.67	0.55	0.47	0.41	0.53	0.46	0.41	0.52	0.45	0.40	0.50	0.45	0.40	0.38			
8	0.65	0.51	0.43	0.37	0.63	0.50	0.42	0.36	0.62	0.49	0.42	0.36	0.48	0.41	0.36	0.47	0.41	0.36	0.46	0.40	0.36	0.34			
9	0.60	0.46	0.38	0.32	0.58	0.46	0.37	0.32	0.57	0.45	0.37	0.32	0.44	0.37	0.32	0.43	0.36	0.32	0.42	0.36	0.31	0.30			
10	0.55	0.42	0.33	0.28	0.54	0.41	0.33	0.28	0.53	0.41	0.33	0.28	0.40	0.33	0.28	0.39	0.32	0.28	0.38	0.32	0.28	0.26			

THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS
BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN.
LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD
THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA

LUMINAIRE INPUT WATTS 7.5

LABORATORY RESULTS MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.
BALLAST AND FIELD FACTORS HAVE NOT BEEN APPLIED.

TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST
LUMINOUS OPENING OF LUMINAIRE.

LIGHTING SCIENCES, INC.
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WITH WHITE INTERIOR AND NO LENS
FOUR LEDS. LUMINAIRE OUTPUT = 371 LMS.
LUMINAIRE OPERATING AT 120 VAC AND 7.5 WATTS

ELECTRICAL MEASUREMENTS

INPUT VOLTAGE:	120.0	VOLTS AC
INPUT CURRENT:	0.067	AMPS
INPUT POWER:	7.5	WATTS
POWER FACTOR:	93.3	PERCENT
TOTAL HARMONIC DISTORTION:	11.03	PERCENT
OFF STATE POWER:	0.00	WATTS

LIGHT OUTPUT

LUMENS:	371	lm
EFFICACY:	49.5	lm/W

SPECTRAL MEASUREMENTS

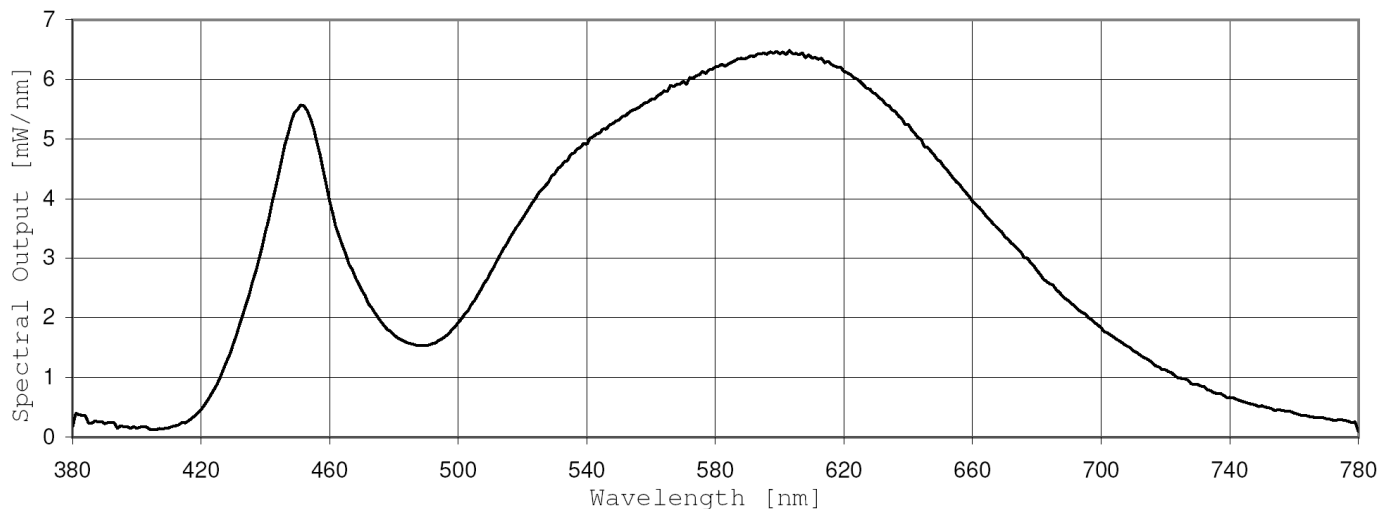
X:	0.3994	
y:	0.3784	
u/u':	0.2370	
v:	0.3368	
v':	0.5051	
Duv:	0.0042	
CRI (R _a):	83.4	
CRI (R ₉):	31.9	
CCT:	3529	K
RADIANT FLUX:	1229	mW

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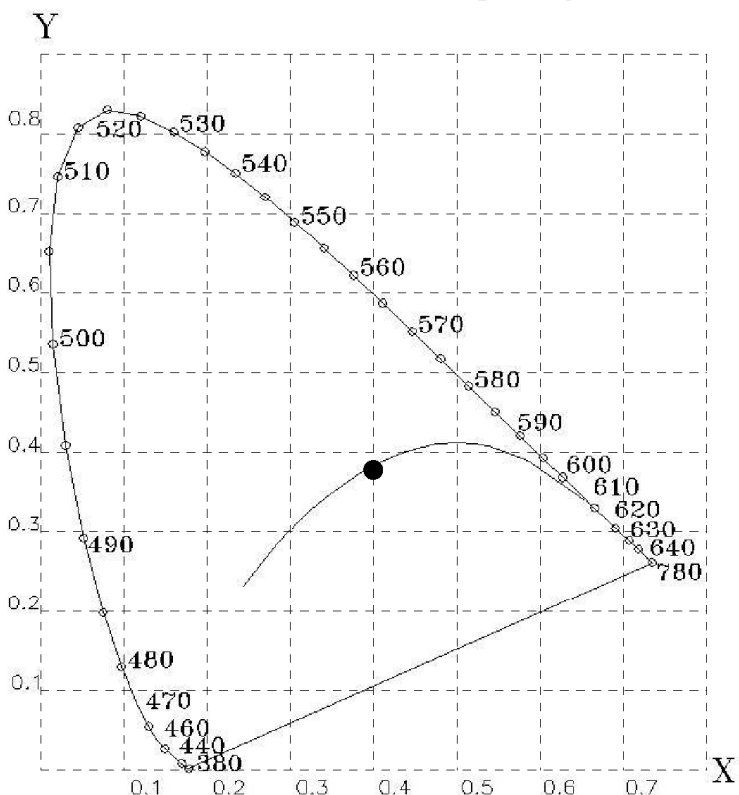
Spectral Power Distribution



Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.17365	590	6.36565
390	0.22594	600	6.43394
400	0.14832	610	6.36237
410	0.15818	620	6.13660
420	0.46364	630	5.75490
430	1.56259	640	5.24925
440	3.44084	650	4.63002
450	5.50216	660	3.96084
460	3.96447	670	3.35285
470	2.45651	680	2.78773
480	1.71229	690	2.27897
490	1.53545	700	1.82743
500	1.92095	710	1.44382
510	2.75471	720	1.12764
520	3.67992	730	0.88234
530	4.42655	740	0.66711
540	4.91975	750	0.52657
550	5.32393	760	0.40435
560	5.66933	770	0.30979
570	5.97081	780	0.09240
580	6.21180		

CIE 1931 Chromaticity Diagram



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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.