



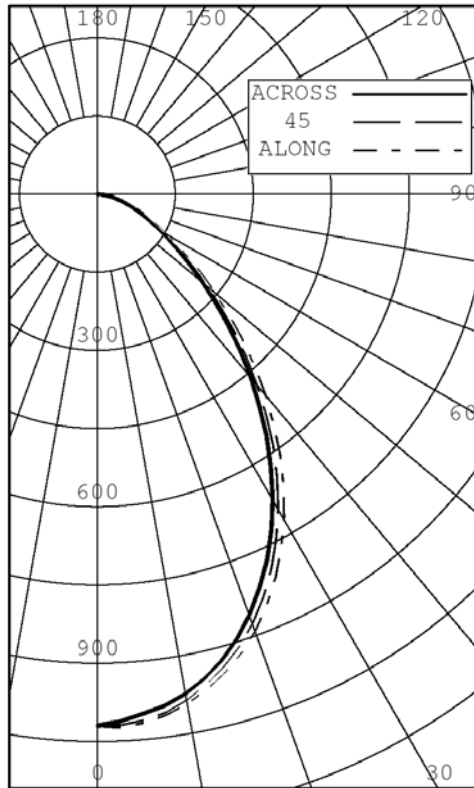
# Lighting Sciences

www.lightingsciences.com

Lighting Sciences Inc.  
7826 E. Evans Road  
Scottsdale, Arizona 85260 USA  
Tel: 480-991-9260 • Fax: 480-991-0375

CERTIFIED TEST REPORT No. 27064

LITECONTROL - LED DIRECT PENDANT LUMINAIRE, CAT# P-D-L2074 VC4-C4000K  
WITH FLAT WHITE PLASTIC LENS  
LED ARRAY. LUMINAIRE OUTPUT = 1734 LMS  
TWO HIGH PERFECTION LP1017-24-C0660 DRIVER OPERATING AT 120 VAC AND 27.2 WATTS



INTENSITY (CANDLEPOWER) SUMMARY						OUTPUT LUMENS
ANGLE	ALONG	22.5	45	67.5	ACROSS	
0	1020	1020	1020	1020	1020	
5	1019	1011	1013	1009	1001	97
10	993	986	986	979	974	
15	950	942	939	932	925	262
20	890	881	875	863	857	
25	811	803	792	779	772	362
30	717	709	695	683	674	
35	612	603	588	575	567	366
40	502	492	477	464	458	
45	394	385	372	361	355	288
50	297	290	278	270	265	
55	218	212	202	197	193	184
60	158	152	145	141	138	
65	114	108	103	101	98	105
70	82	76	72	71	69	
75	57	53	49	48	46	54
80	36	33	31	29	28	
85	21	21	15	11	10	16
90	0	0	0	0	0	

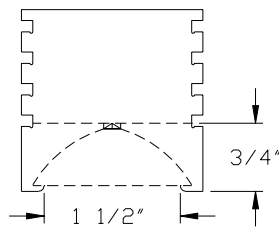
### ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	721	41.59
0-40	1087	62.68
0-60	1559	89.92
0-90	1734	100.00
40-90	647	37.32
60-90	175	10.08
90-180	0	0.00
0-180	1734	100.00

EFFICACY (LUMENS PER WATT): 63.8

\*\*\* THIS IS AN ABSOLUTE TEST \*\*\*

LUMINOUS LENGTH: 47.750 INS  
WIDTH: 1.500 INS



LUMINANCE SUMMARY CD./SQ.M.

ANGLE	ALONG	45	ACROSS
45	12061	11412	10898
55	8221	7665	7294
65	5811	5269	5016
75	4753	4139	3852
85	5226	3771	2529

S/MH: 1.0  
SC (ALONG): 1.1, SC (ACROSS): 1.0  
CERTIFIED BY:

DATE: APR 30, 2010  
PREPARED FOR: LITECONTROL  
HANSON, MA

TESTED IN ACCORDANCE WITH IES PROCEDURES.

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INTENSITY (CANDLEPOWER) DATA  
IN 2.5 DEGREE STEPS

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	22.5	45	67.5	ACROSS	AVERAGE	
0.0	1020	1020	1020	1020	1020	1020	
2.5	1025	1018	1020	1017	1012	1018	
5.0	1019	1011	1013	1009	1001	1011	97
7.5	1008	1001	1003	995	990	1000	
10.0	993	986	986	979	974	984	
12.5	973	966	964	958	951	963	
15.0	950	942	939	932	925	937	262
17.5	922	913	909	899	893	907	
20.0	890	881	875	863	857	873	
22.5	852	844	835	824	815	834	
25.0	811	803	792	779	772	791	362
27.5	765	758	744	733	724	745	
30.0	717	709	695	683	674	696	
32.5	666	657	642	630	621	643	
35.0	612	603	588	575	567	589	366
37.5	557	547	533	519	511	533	
40.0	502	492	477	464	458	478	
42.5	447	437	423	411	405	424	
45.0	394	385	372	361	355	373	288
47.5	344	336	323	313	308	325	
50.0	297	290	278	270	265	280	
52.5	255	248	238	230	226	239	
55.0	218	212	202	197	193	204	184
57.5	185	180	172	166	163	173	
60.0	158	152	145	141	138	146	
62.5	134	128	122	119	116	123	
65.0	114	108	103	101	98	104	105
67.5	96	90	86	85	82	88	
70.0	82	76	72	71	69	74	
72.5	69	64	60	59	57	61	
75.0	57	53	49	48	46	50	54
77.5	46	42	39	38	36	40	
80.0	36	33	31	29	28	31	
82.5	29	28	25	21	20	24	
85.0	21	21	15	11	10	16	16
87.5	9	7	3	2	2	4	
90.0	0	0	0	0	0	0	

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AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	22.5	45	67.5	ACROSS
0	22073 ( 6442)	22073 ( 6442)	22073 ( 6442)	22073 ( 6442)	22073 ( 6442)
30	17920 ( 5230)	17766 ( 5185)	17408 ( 5080)	17110 ( 4994)	16838 ( 4914)
40	14171 ( 4136)	13927 ( 4064)	13477 ( 3933)	13144 ( 3836)	12948 ( 3779)
45	12061 ( 3520)	11809 ( 3446)	11412 ( 3331)	11076 ( 3232)	10898 ( 3180)
50	10004 ( 2919)	9798 ( 2859)	9360 ( 2732)	9104 ( 2657)	8909 ( 2600)
55	8221 ( 2399)	8007 ( 2337)	7665 ( 2237)	7439 ( 2171)	7294 ( 2128)
60	6823 ( 1991)	6601 ( 1926)	6279 ( 1832)	6105 ( 1781)	5959 ( 1739)
65	5811 ( 1696)	5517 ( 1610)	5269 ( 1538)	5165 ( 1507)	5016 ( 1464)
70	5159 ( 1505)	4835 ( 1411)	4597 ( 1341)	4505 ( 1314)	4334 ( 1264)
75	4753 ( 1387)	4406 ( 1286)	4139 ( 1208)	4027 ( 1175)	3852 ( 1124)
80	4492 ( 1311)	4172 ( 1217)	3846 ( 1122)	3600 ( 1050)	3452 ( 1007)
85	5226 ( 1525)	5244 ( 1530)	3771 ( 1100)	2691 ( 785)	2529 ( 738)

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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	1.221	.221	.221	.22	1.191	.191	.191	.19	1.161	.161	.161	.16	1.111	.111	.111	.11	1.061	.061	.06	1.021	.021	.02	1.00			
1	1.141	.101	.071	.04	1.121	.081	.051	.02	1.091	.061	.031	.00	1.020	.990	.97	0.980	.960	.94	0.940	.930	.91	0.90				
2	1.071	.000	.950	.90	1.040	.980	.930	.89	1.020	.970	.920	.88	0.930	.890	.86	0.900	.870	.84	0.870	.850	.82	0.81				
3	0.990	.910	.840	.79	0.970	.890	.830	.78	0.950	.880	.820	.78	0.850	.800	.76	0.830	.790	.75	0.810	.770	.74	0.72				
4	0.930	.830	.760	.71	0.910	.820	.750	.70	0.900	.810	.750	.70	0.790	.730	.69	0.770	.720	.68	0.750	.710	.67	0.65				
5	0.880	.760	.690	.63	0.850	.750	.680	.63	0.830	.740	.670	.62	0.720	.660	.62	0.700	.650	.61	0.690	.640	.61	0.59				
6	0.820	.700	.620	.57	0.800	.690	.620	.57	0.780	.680	.610	.56	0.660	.600	.56	0.650	.600	.55	0.640	.590	.55	0.53				
7	0.760	.640	.560	.51	0.740	.630	.560	.51	0.730	.620	.550	.50	0.610	.550	.50	0.590	.540	.50	0.580	.530	.49	0.48				
8	0.710	.590	.510	.46	0.700	.580	.510	.46	0.680	.570	.510	.46	0.560	.500	.46	0.550	.490	.45	0.540	.490	.45	0.43				
9	0.660	.540	.470	.41	0.650	.540	.460	.41	0.640	.530	.460	.41	0.520	.460	.41	0.510	.450	.41	0.500	.450	.41	0.39				
10	0.620	.500	.420	.38	0.610	.490	.420	.38	0.600	.490	.420	.38	0.480	.420	.38	0.470	.410	.37	0.460	.410	.37	0.36				

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 27.2

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.

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**ELECTRICAL MEASUREMENTS**

INPUT VOLTAGE:	120.0	VOLTS AC
INPUT CURRENT:	0.232	AMPS
INPUT POWER:	27.2	WATTS
POWER FACTOR:	97.7	PERCENT
TOTAL HARMONIC DISTORTION:	8.95	PERCENT
OFF STATE POWER:	0.00	WATTS

**LIGHT OUTPUT**

LUMENS:	1734	lm
EFFICACY:	63.8	lm/W

**SPECTRAL MEASUREMENTS**

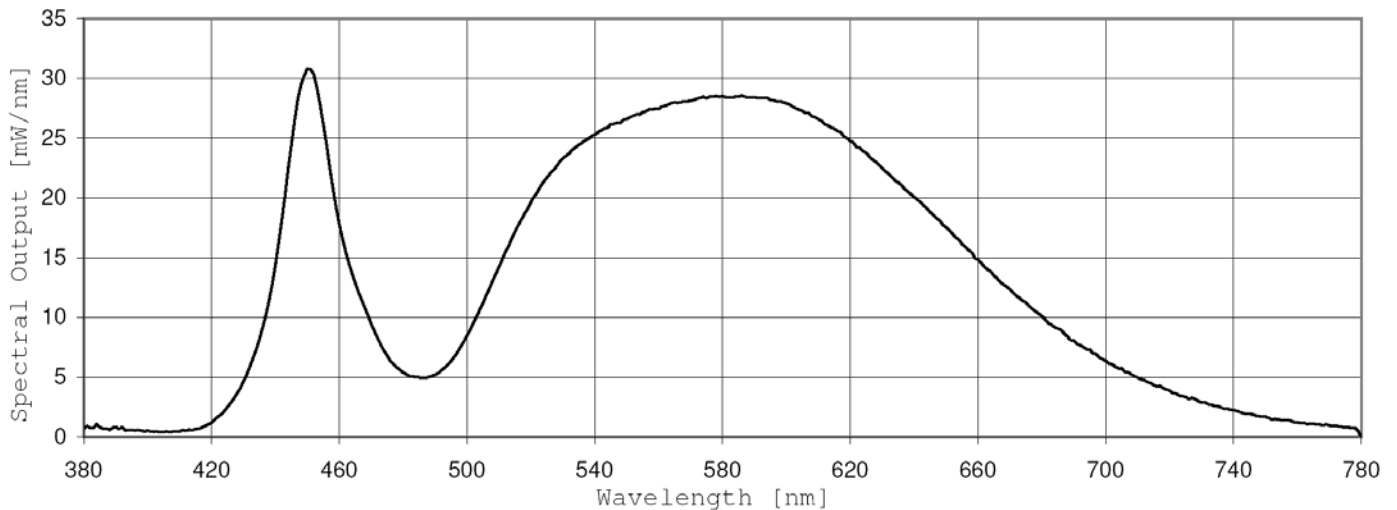
X:	0.3894	
y:	0.3900	
u/u':	0.2257	
v:	0.3391	
v':	0.5086	
Duv:	0.0036	
CRI (R <sub>a</sub> ):	78.0	
CRI (R <sub>g</sub> ):	10.3	
CCT:	3864	K
RADIANT FLUX:	5307	mW

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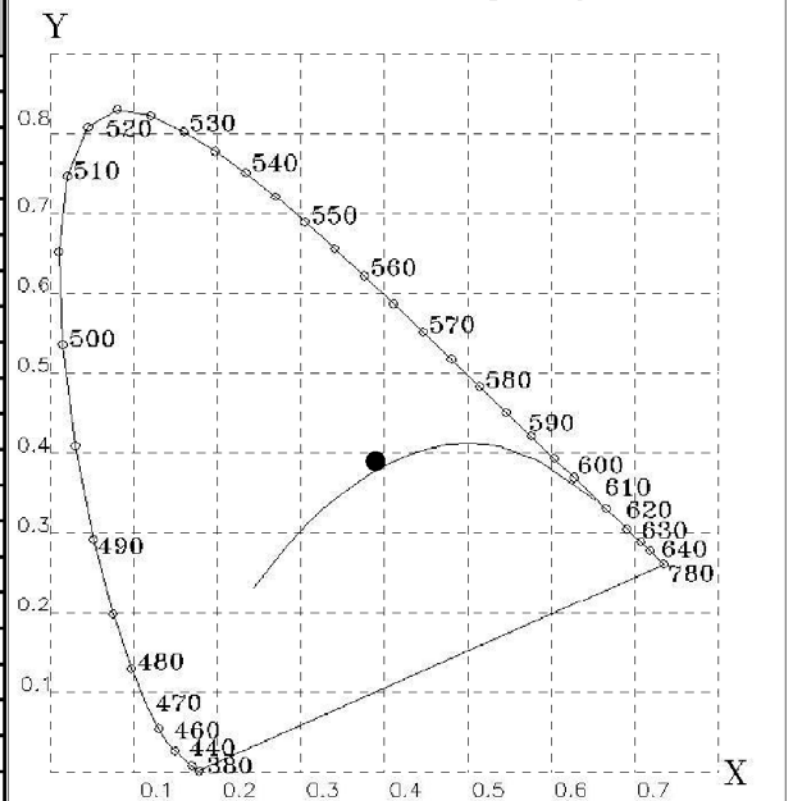
Spectral Power Distribution



Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.68399	590	28.41790
390	0.84095	600	27.91847
400	0.52856	610	26.58958
410	0.45765	620	24.77966
420	1.18438	630	22.48372
430	4.66394	640	20.09311
440	14.42034	650	17.54189
450	30.82768	660	14.83621
460	17.80407	670	12.33904
470	9.47429	680	10.11018
480	5.39412	690	8.06607
490	5.21090	700	6.36999
500	8.48693	710	4.95946
510	14.22754	720	3.88546
520	19.66113	730	2.87395
530	23.32007	740	2.24573
540	25.30669	750	1.69647
550	26.60491	760	1.23689
560	27.46809	770	0.97472
570	28.14844	780	0.00000
580	28.53480		

CIE 1931 Chromaticity Diagram



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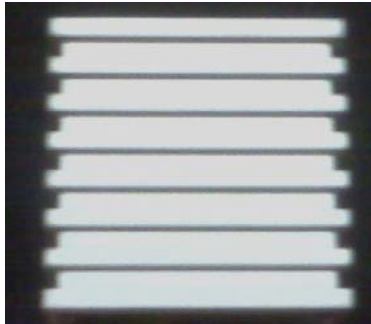
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ISO VIEW



END VIEW



LUMINOUS OPENING



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**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.  $4\pi$  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.