



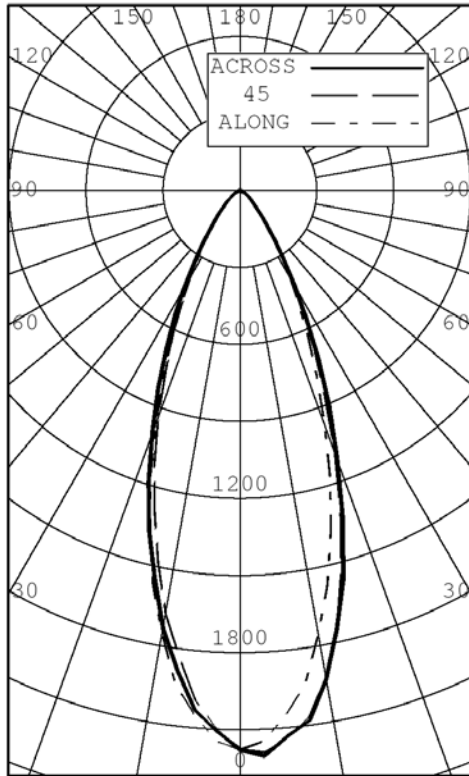
# Lighting Sciences

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. 26886

DDP - 2' LED WALL WASH LUMINAIRE, CAT# WG-24-2N-AF-3E-30AS-17WF-27K  
WITH DIFFUSE FLAT PLASTIC LENS  
24 LEDS. LUMINAIRE OUTPUT = 1161 LMS  
LUMINAIRE OPERATING AT 24 VDC AND 37.9 WATTS



ANGLE	INTENSITY (CANDLEPOWER) SUMMARY					OUTPUT LUMENS
	ALONG	BEAM SIDE			ACROSS	
0	2178	67.5	45	2178	2178	
5	2050	2119	2141	2178	2134	99
10	1756	1846	1924	1969	1934	
15	1368	1460	1524	1572	1562	204
20	959	1025	1074	1117	1105	
25	623	650	685	708	724	156
30	386	378	399	410	426	
35	226	216	220	230	237	73
40	137	126	130	130	136	
45	86	78	80	80	84	32
50	56	53	53	56	57	
55	39	39	39	39	41	18
60	28	27	29	29	29	
65	17	19	19	19	20	9
70	11	13	13	13	13	
75	5	6	8	8	6	4
80	2	2	2	2	2	
85	0	0	0	0	0	0
90	0	0	0	0	0	

### BOTH SIDES ZONAL LUMENS AND PERCENTAGES

ZONE	LUMENS	% LUMINAIRE
0-30	877	75.57
0-40	1028	88.58
0-60	1135	97.74
0-90	1161	100.00
40-90	133	11.42
60-90	26	2.26
90-180	0	0.00
0-180	1161	100.00

EFFICACY (LUMENS PER WATT): 30.6

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

LUMINOUS LENGTH: 23.250 INS  
WIDTH: 2.000 INS

### LUMINANCE SUMMARY - CD./SQ.M.

ANGLE	BEAM SIDE		
	ALONG	45	ACROSS
45	4054	3788	3987
55	2266	2261	2408
65	1340	1467	1601
75	643	1086	762
85	0	0	0

CERTIFIED BY:

*Jonah E. Weber III*

DATE:  
APR 15, 2010

PREPARED FOR:

DDP  
EL SEGUNDO, CA

TESTED IN ACCORDANCE WITH IES PROCEDURES.

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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	2178	2178	2178	2178	2178	2178	
2.5	2146	2185	2189	2204	2205	2188	
5.0	2050	2119	2141	2178	2134	2133	99
7.5	1939	2024	2065	2104	2082	2051	
10.0	1756	1846	1924	1969	1934	1896	
12.5	1575	1664	1743	1786	1747	1713	
15.0	1368	1460	1524	1572	1562	1505	204
17.5	1165	1228	1302	1346	1329	1281	
20.0	959	1025	1074	1117	1105	1062	
22.5	779	812	862	903	909	856	
25.0	623	650	685	708	724	679	156
27.5	492	496	521	539	558	520	
30.0	386	378	399	410	426	398	
32.5	293	286	296	307	311	298	
35.0	226	216	220	230	237	224	73
37.5	175	164	167	169	174	169	
40.0	137	126	130	130	136	130	
42.5	106	99	101	101	104	101	
45.0	86	78	80	80	84	81	32
47.5	70	64	66	66	67	66	
50.0	56	53	53	56	57	55	
52.5	48	46	47	47	47	47	
55.0	39	39	39	39	41	39	18
57.5	34	33	33	33	35	33	
60.0	28	27	29	29	29	28	
62.5	21	23	23	23	24	23	
65.0	17	19	19	19	20	19	9
67.5	15	14	14	16	16	15	
70.0	11	13	13	13	13	12	
72.5	9	8	8	10	10	9	
75.0	5	6	8	8	6	7	4
77.5	4	4	4	2	4	4	
80.0	2	2	2	2	2	2	
82.5	0	0	0	0	0	0	
85.0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	
90.0	0	0	0	0	0	0	

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BEAM SIDE  
 AVERAGE LUMINANCE DATA

CD./SQ.M (FOOTLAMBERTS)

ANGLE	ALONG	67.5	45	22.5	ACROSS
0	72596 ( 21188)	72596 ( 21188)	72596 ( 21188)	72596 ( 21188)	72596 ( 21188)
30	14857 ( 4336)	14604 ( 4262)	15414 ( 4498)	15801 ( 4611)	16379 ( 4780)
40	5961 ( 1739)	5478 ( 1598)	5652 ( 1649)	5662 ( 1652)	5903 ( 1723)
45	4054 ( 1183)	3699 ( 1079)	3788 ( 1105)	3785 ( 1104)	3987 ( 1163)
50	2904 ( 847)	2763 ( 806)	2753 ( 803)	2892 ( 844)	2971 ( 867)
55	2266 ( 661)	2256 ( 658)	2261 ( 660)	2259 ( 659)	2408 ( 703)
60	1866 ( 544)	1803 ( 526)	1912 ( 558)	1915 ( 558)	1910 ( 557)
65	1340 ( 391)	1463 ( 427)	1467 ( 428)	1466 ( 428)	1601 ( 467)
70	1072 ( 312)	1236 ( 360)	1235 ( 360)	1234 ( 360)	1231 ( 359)
75	643 ( 187)	762 ( 222)	1086 ( 317)	1089 ( 317)	762 ( 222)
80	383 ( 112)	324 ( 94)	324 ( 94)	323 ( 94)	323 ( 94)
85	0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)	0 ( 0)

LUMINOUS LENGTH: 23.250 INS  
 WIDTH: 2.000 INS

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

ANGLE	PLANE						OUTPUT LUMENS
	ALONG	112.5	135	157.5	ACROSS	AVERAGE	
0.0	2178	2178	2178	2178	2178	2178	
2.5	2146	2119	2097	2131	2107	2118	
5.0	2050	2000	1996	2028	2033	2016	92
7.5	1939	1858	1829	1870	1883	1867	
10.0	1756	1674	1674	1703	1734	1699	
12.5	1575	1496	1483	1504	1541	1510	
15.0	1368	1286	1292	1337	1374	1322	181
17.5	1165	1103	1113	1139	1191	1133	
20.0	959	905	934	971	1002	947	
22.5	779	753	755	796	838	778	
25.0	623	613	624	658	681	637	145
27.5	492	488	490	521	551	505	
30.0	386	387	388	418	438	401	
32.5	293	303	308	323	337	312	
35.0	226	237	241	253	263	244	78
37.5	175	181	187	196	201	188	
40.0	137	146	146	154	158	148	
42.5	106	113	115	120	126	116	
45.0	86	90	90	97	99	92	37
47.5	70	74	74	76	78	75	
50.0	56	57	60	62	64	60	
52.5	48	50	51	51	53	51	
55.0	39	41	41	43	43	42	19
57.5	34	35	35	35	37	35	
60.0	28	29	29	29	31	29	
62.5	21	24	24	24	24	24	
65.0	17	20	20	20	20	20	10
67.5	15	16	14	16	16	15	
70.0	11	13	13	13	13	12	
72.5	9	8	8	8	10	9	
75.0	5	6	6	6	6	6	3
77.5	4	4	4	2	4	4	
80.0	2	2	2	0	0	1	
82.5	0	0	0	0	0	0	
85.0	0	0	0	0	0	0	0
87.5	0	0	0	0	0	0	
90.0	0	0	0	0	0	0	

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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	1.171	.141	.121	.09	1.141	.121	.101	.08	1.121	.101	.081	.06	1.061	.041	.03	1.021	.011	.00	0.990	.980	.97	0.95				
2	1.121	.081	.041	.00	1.101	.061	.020	.99	1.081	.041	.010	.98	1.010	.980	.96	0.980	.960	.94	0.950	.940	.92	0.91				
3	1.071	.010	.970	.93	1.051	.000	.960	.93	1.040	.990	.950	.92	0.970	.930	.91	0.940	.920	.89	0.920	.900	.88	0.87				
4	1.030	.970	.920	.88	1.020	.960	.910	.88	1.000	.940	.910	.87	0.920	.890	.86	0.910	.870	.85	0.890	.860	.84	0.83				
5	0.990	.920	.870	.83	0.980	.910	.860	.83	0.960	.900	.850	.82	0.880	.840	.82	0.870	.830	.81	0.850	.830	.80	0.79				
6	0.960	.880	.830	.79	0.940	.870	.820	.79	0.930	.860	.820	.78	0.850	.810	.78	0.840	.800	.77	0.820	.790	.77	0.76				
7	0.910	.840	.780	.75	0.900	.830	.780	.75	0.890	.820	.780	.74	0.810	.770	.74	0.800	.760	.73	0.790	.760	.73	0.72				
8	0.890	.800	.750	.72	0.870	.790	.750	.71	0.860	.790	.740	.71	0.780	.740	.71	0.770	.730	.70	0.760	.730	.70	0.69				
9	0.850	.770	.710	.68	0.840	.760	.710	.68	0.830	.750	.710	.68	0.750	.700	.67	0.740	.700	.67	0.730	.700	.67	0.66				
10	0.820	.730	.680	.65	0.810	.730	.680	.65	0.800	.730	.680	.65	0.720	.680	.65	0.710	.670	.64	0.710	.670	.64	0.63				

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 37.9

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:	24.0	VOLTS DC
INPUT CURRENT:	1.58	AMPS
INPUT POWER:	37.9	WATTS
POWER FACTOR:	N/A	PERCENT
TOTAL HARMONIC DISTORTION:	N/A	PERCENT
OFF STATE POWER:	0.00	WATTS

**LIGHT OUTPUT**

LUMENS:	1161	lm
EFFICACY:	30.6	lm/W

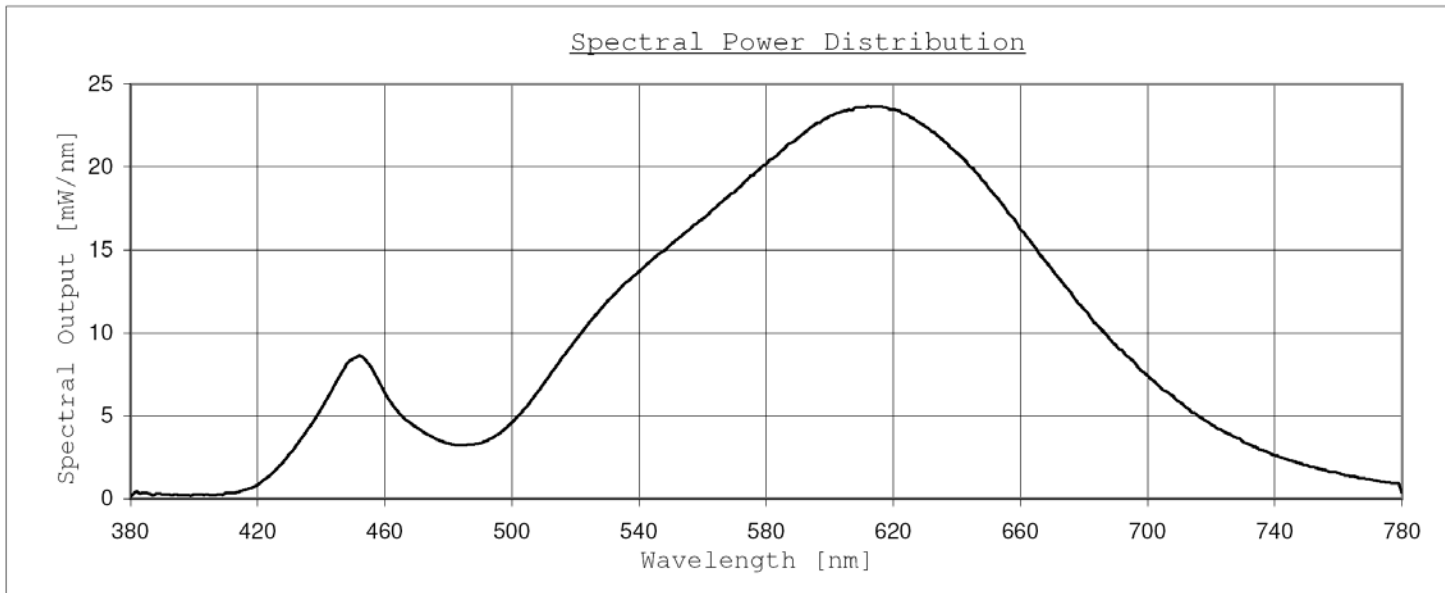
**SPECTRAL MEASUREMENTS**

X:	0.4583	
y:	0.4118	
u/u':	0.2610	
v:	0.3517	
v':	0.5276	
Duv:	0.0005	
CRI (R <sub>a</sub> ):	82.5	
CRI (R <sub>g</sub> ):	27.2	
CCT:	2730	K
RADIANT FLUX:	3872	mW

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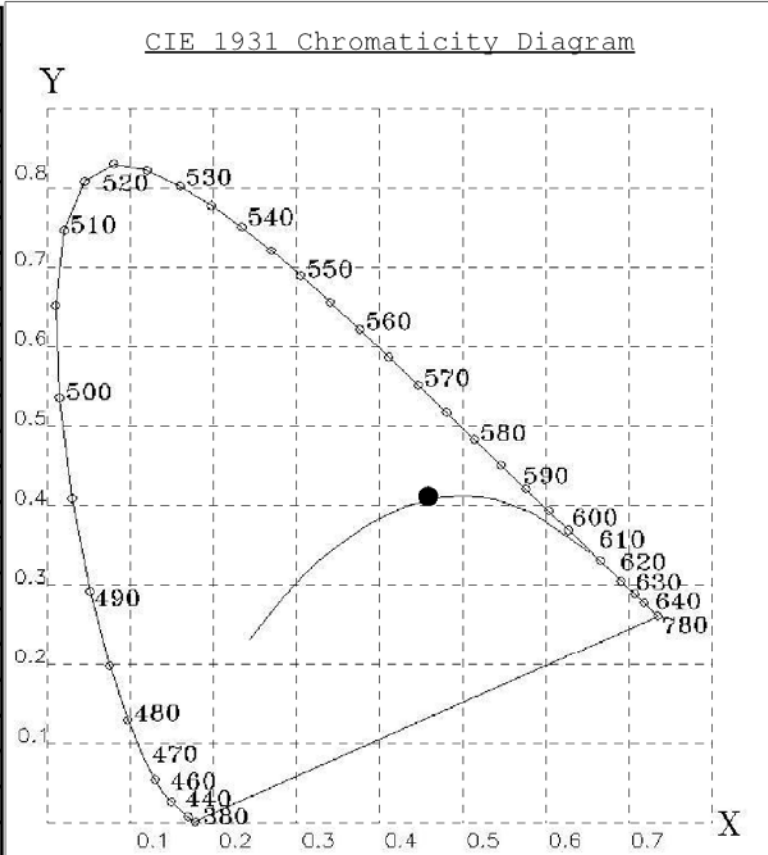
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Tabulated Spectral Power Distribution

Wavelength [nm]	[mW/nm]	Wavelength [nm]	[mW/nm]
380	0.13811	590	21.73595
390	0.26158	600	23.06614
400	0.26326	610	23.61204
410	0.33724	620	23.49353
420	0.82197	630	22.46625
430	2.71057	640	20.84565
440	5.41931	650	18.71468
450	8.43356	660	16.21384
460	6.39792	670	13.80787
470	4.31394	680	11.44293
480	3.34447	690	9.26087
490	3.34081	700	7.42627
500	4.58986	710	5.83449
510	6.94382	720	4.47669
520	9.56074	730	3.42791
530	11.90676	740	2.60395
540	13.69622	750	2.04112
550	15.32537	760	1.55715
560	16.85324	770	1.17431
570	18.46667	780	0.37133
580	20.17269		



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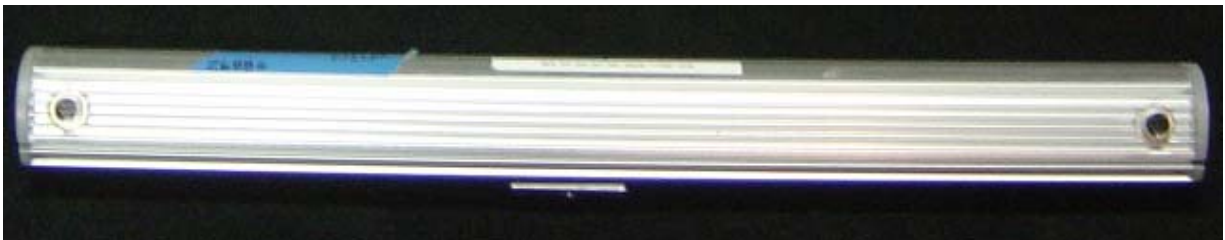
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END VIEW



SIDE VIEW



LUMINOUS OPENING



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This photometric test was conducted using a Lighting Sciences series 6000 Moving Mirror Goniophotometer.

The photometric reference standard used was a set of three incandescent luminous intensity standard lamps calibrated traceable to the U.S. National Institute of Standards and Technology. Calibration certificates are on file at the laboratories of Lighting Sciences Inc.

The condition of the item tested was new. Operating time of the product prior to testing exceeded 8 hours. Stabilization time before testing exceeded 30 minutes.

Colorimetric testing was performed 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 .84.

Ambient temperature during testing was  $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$ , measured using an Omega model DP460. All testing was conducted in accordance with IES LM-79-08.

All photometric quantities provided in this report are presented on an absolute basis. Testing was conducted using the rated input voltage to the driver.