

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P252299

Luminaire Tested: **LE_6B50D010R EC6B30508035 6LBSW1H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P252299
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-7)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LE_6B50D010R EC6B30508035 6LBSW1H
Description: PORTFOLIO 6 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6333.7 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.18 / 1.16
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

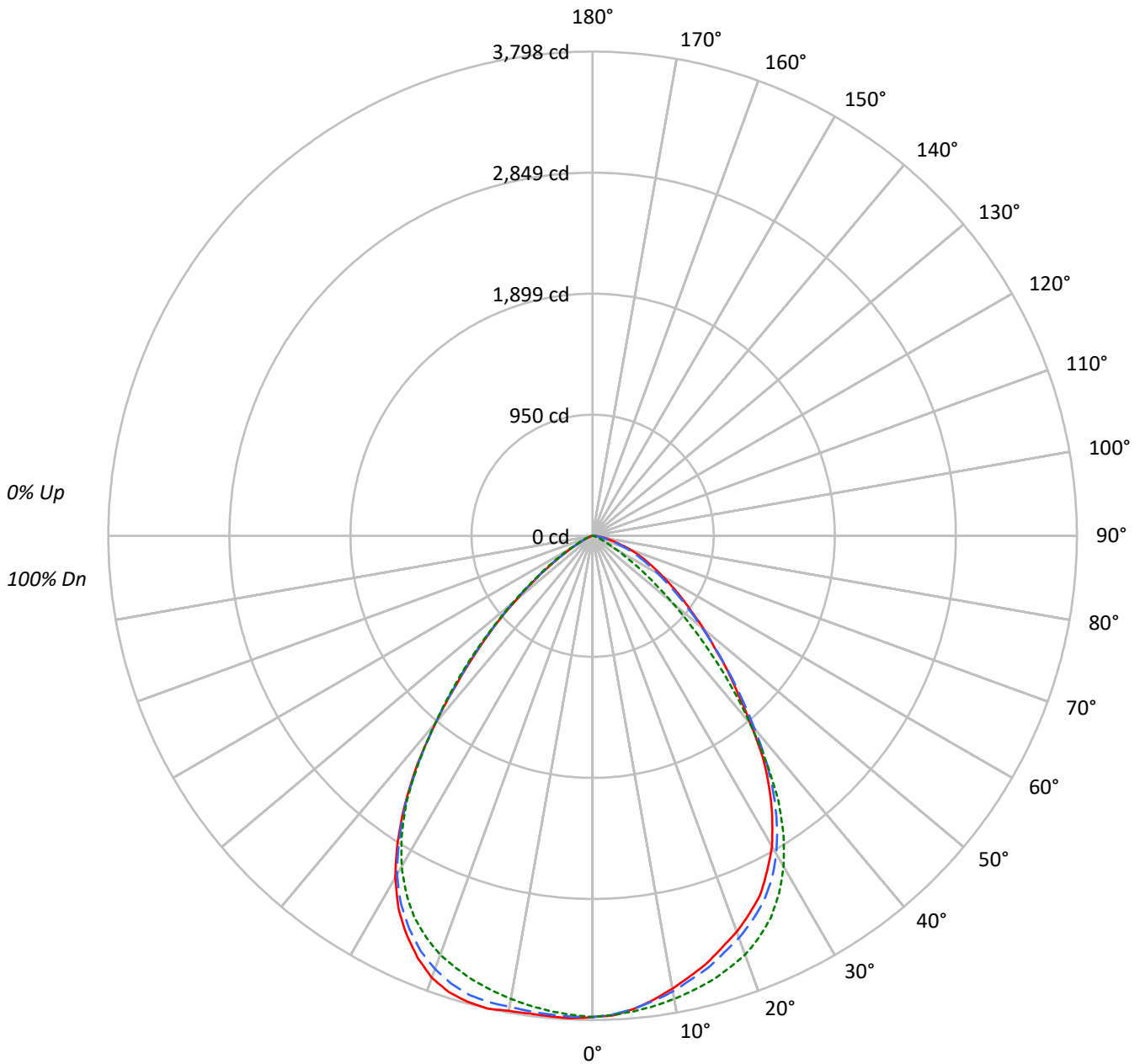
Input Watts (W): 58.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P252299

CATALOG NUMBER: LE_6B50D010R EC6B30508035 6LBSW1H

Luminous Intensity Polar Plot





TEST NUMBER: P252299

CATALOG NUMBER: LE_6B50D010R EC6B30508035 6LBSW1H

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20	
RC	80				70				50				30				10				0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90				90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	85	82	80				80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72				72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	69	66	64				64
5	85	74	67	62	83	73	66	61	71	65	61	70	64	60	68	63	60	58				58
6	79	68	61	55	78	67	60	55	66	59	55	64	59	54	63	58	54	52				52
7	74	63	55	50	73	62	55	50	61	54	50	59	54	49	58	53	49	47				47
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43				43
9	65	54	47	42	64	53	46	42	52	46	42	51	46	41	50	45	41	40				40
10	62	50	43	39	61	50	43	38	49	43	38	48	42	38	47	42	38	37				37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	246296	246296	246296
5°	243956	245155	247840
10°	238927	244359	250705
15°	234364	243901	255606
20°	229500	242795	256091
25°	223845	237954	248464
30°	211928	225669	233225
35°	192460	202264	204088
40°	164267	163484	162709
45°	137981	122425	118633
50°	115239	82831	78670
55°	96978	50832	46157
60°	82099	26762	23213
65°	71089	14079	11269
70°	59133	8698	6085
75°	43659	5747	3428
80°	34264	3419	1691
85°	27322	3368	0



TEST NUMBER: P252299

CATALOG NUMBER: LE_6B50D010R EC6B30508035 6LBSW1H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	355.8	5.6
10°-20°	1018.8	16.1
20°-30°	1504.4	23.8
30°-40°	1550.4	24.5
40°-50°	1070.8	16.9
50°-60°	527.8	8.3
60°-70°	213.9	3.4
70°-80°	76.2	1.2
80°-90°	15.7	0.2
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	2878.9	45.5
0°-40°	4429.3	69.9
0°-60°	6027.9	95.2
0°-90°	6333.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6333.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	3775	3775	3775	3775	3775	
5°	3725	3725	3743	3771	3784	352
15°	3470	3506	3611	3730	3784	977
25°	3110	3169	3306	3401	3452	1422
35°	2416	2476	2540	2553	2562	1497
45°	1496	1505	1327	1309	1286	1156
55°	853	821	447	420	406	770
65°	460	415	91	73	73	457
75°	173	146	23	14	14	194
85°	36	27	4	0	0	45
90°	0	0	0	0	0	



TEST NUMBER: P252299

CATALOG NUMBER: LE_6B50D010R EC6B30508035 6LBSW1H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2
2.5°	3766.1	3752.5	3761.6	3743.4	3766.1	3743.4	3748.0	3752.5	3748.0	3752.5	3757.1
5°	3725.1	3711.5	3725.1	3702.4	3725.1	3711.5	3711.5	3716.0	3716.0	3720.6	3725.1
7.5°	3670.4	3656.8	3670.4	3647.6	3675.0	3661.4	3661.4	3670.4	3665.9	3670.4	3679.5
10°	3606.6	3588.4	3602.0	3588.4	3615.8	3597.5	3606.6	3606.6	3606.6	3620.2	3629.4
12.5°	3538.2	3520.0	3538.2	3515.4	3542.8	3529.1	3533.6	3547.4	3551.9	3561.0	3565.6
15°	3469.9	3447.0	3456.1	3442.5	3469.9	3456.1	3460.8	3478.9	3478.9	3492.6	3506.2
17.5°	3383.1	3365.0	3383.1	3365.0	3387.8	3378.6	3387.8	3401.4	3401.4	3415.1	3428.8
20°	3305.6	3287.4	3301.1	3287.4	3314.8	3301.1	3305.6	3323.9	3328.5	3342.1	3355.9
22.5°	3209.9	3196.2	3205.4	3191.6	3219.0	3209.9	3214.5	3232.8	3237.2	3246.4	3269.2
25°	3109.6	3082.2	3095.9	3086.9	3114.1	3100.5	3109.6	3127.9	3137.0	3150.6	3168.9
27.5°	2963.8	2950.0	2959.1	2959.1	2982.0	2968.2	2972.9	2991.1	3004.8	3018.4	3041.2
30°	2813.2	2790.5	2799.5	2804.1	2822.4	2813.2	2822.4	2840.6	2845.1	2863.4	2881.6
32.5°	2621.8	2612.6	2630.9	2621.8	2630.9	2630.9	2635.4	2649.1	2658.2	2667.4	2690.1
35°	2416.5	2398.4	2416.5	2407.5	2430.2	2416.5	2430.2	2443.9	2443.9	2462.1	2475.9
37.5°	2193.1	2170.4	2179.5	2179.5	2188.6	2184.0	2184.0	2206.9	2211.4	2225.0	2238.8
40°	1928.8	1919.6	1937.8	1933.2	1937.8	1937.8	1942.4	1956.0	1965.1	1969.8	1974.2
42.5°	1691.6	1696.1	1700.8	1700.8	1700.8	1700.8	1700.8	1719.0	1714.4	1728.1	1732.6
45°	1495.5	1477.2	1486.4	1481.9	1495.5	1481.9	1495.5	1509.2	1500.1	1513.8	1504.6
47.5°	1294.9	1294.9	1294.9	1290.4	1299.5	1294.9	1304.0	1308.6	1308.6	1308.6	1304.0
50°	1135.4	1121.6	1126.2	1126.2	1130.8	1126.2	1135.4	1139.9	1139.9	1130.8	1112.5
52.5°	980.2	975.8	975.8	984.9	984.9	980.2	980.2	980.2	980.2	966.6	957.5
55°	852.6	843.5	848.1	848.1	848.1	848.1	852.6	848.1	848.1	834.4	820.8
57.5°	738.6	729.5	729.5	729.5	734.1	729.5	729.5	729.5	725.0	711.2	693.0
60°	629.2	624.6	629.2	629.2	633.8	629.2	629.2	629.2	620.1	606.4	588.1
62.5°	538.0	538.0	538.0	542.6	542.6	538.0	538.0	533.5	528.9	510.6	492.4
65°	460.5	456.0	460.5	460.5	465.1	465.1	460.5	456.0	451.4	433.1	414.9
67.5°	383.0	378.5	383.0	383.0	387.5	383.0	383.0	383.0	369.4	360.2	342.0
70°	310.0	305.5	305.5	305.5	310.0	300.9	305.5	305.5	296.4	282.8	264.5
72.5°	237.1	237.1	237.1	237.1	237.1	237.1	232.5	232.5	223.4	209.8	200.6
75°	173.2	173.2	177.9	177.9	173.2	173.2	173.2	168.8	164.1	155.0	145.9
77.5°	127.6	127.6	127.6	127.6	123.1	123.1	123.1	118.5	114.0	109.4	100.2
80°	91.2	91.2	91.2	86.6	91.2	86.6	86.6	86.6	77.5	73.0	68.4
82.5°	63.9	59.2	59.2	59.2	59.2	59.2	59.2	54.8	54.8	50.1	45.6
85°	36.5	36.5	36.5	36.5	36.5	36.5	36.5	36.5	31.9	27.4	27.4
87.5°	18.2	22.8	22.8	22.8	22.8	22.8	22.8	18.2	18.2	18.2	13.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P252299

CATALOG NUMBER: LE_6B50D010R EC6B30508035 6LBSW1H

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2
2.5°	3757.1	3757.1	3766.1	3752.5	3775.2	3761.6	3757.1	3779.9	3766.1	3761.6	3770.8
5°	3725.1	3729.8	3734.2	3725.1	3748.0	3734.2	3734.2	3757.1	3748.0	3743.4	3757.1
7.5°	3684.1	3688.6	3697.8	3693.2	3711.5	3702.4	3706.9	3729.8	3720.6	3720.6	3734.2
10°	3634.0	3643.1	3652.2	3652.2	3675.0	3665.9	3665.9	3693.2	3684.1	3688.6	3706.9
12.5°	3574.6	3588.4	3602.0	3606.6	3629.4	3615.8	3620.2	3652.2	3647.6	3652.2	3670.4
15°	3510.9	3529.1	3542.8	3542.8	3570.1	3556.5	3570.1	3602.0	3592.9	3611.1	3634.0
17.5°	3437.9	3456.1	3474.4	3478.9	3506.2	3497.1	3515.4	3547.4	3547.4	3556.5	3583.8
20°	3369.5	3392.2	3401.4	3415.1	3442.5	3437.9	3447.0	3483.5	3483.5	3497.1	3524.5
22.5°	3278.4	3301.1	3319.4	3333.0	3355.9	3355.9	3369.5	3401.4	3401.4	3410.5	3437.9
25°	3178.0	3205.4	3219.0	3232.8	3255.5	3251.0	3264.6	3292.0	3296.5	3305.6	3333.0
27.5°	3050.4	3073.1	3091.4	3100.5	3132.4	3114.1	3127.9	3159.8	3155.2	3164.4	3187.1
30°	2890.8	2913.5	2931.8	2931.8	2959.1	2959.1	2972.9	2986.5	2986.5	2995.6	3013.9
32.5°	2703.8	2731.1	2731.1	2744.9	2763.1	2744.9	2763.1	2781.4	2772.2	2785.9	2799.5
35°	2489.5	2503.2	2507.8	2507.8	2521.4	2516.9	2512.2	2526.0	2516.9	2539.6	2553.4
37.5°	2229.6	2247.9	2238.8	2247.9	2243.2	2229.6	2229.6	2252.4	2234.1	2238.8	2252.4
40°	1978.9	1978.9	1974.2	1951.5	1956.0	1942.4	1937.8	1942.4	1924.1	1919.6	1937.8
42.5°	1719.0	1714.4	1700.8	1668.8	1673.4	1650.5	1632.4	1632.4	1623.2	1618.6	1623.2
45°	1486.4	1472.8	1449.9	1413.5	1404.4	1386.1	1349.6	1340.5	1326.9	1326.9	1331.4
47.5°	1272.1	1253.9	1217.4	1176.4	1153.6	1130.8	1094.2	1080.6	1057.9	1048.8	1057.9
50°	1094.2	1062.4	1016.8	957.5	934.8	907.4	870.9	848.1	825.2	816.1	811.6
52.5°	930.1	884.5	839.0	766.0	747.8	720.4	670.2	647.5	624.6	606.4	606.4
55°	788.8	747.8	683.9	615.5	588.1	560.9	510.6	478.8	456.0	446.9	437.8
57.5°	661.1	615.5	556.2	483.2	456.0	428.6	378.5	346.5	323.8	310.0	300.9
60°	556.2	506.1	446.9	383.0	351.1	323.8	273.6	241.6	218.9	205.1	196.0
62.5°	456.0	414.9	355.6	296.4	269.0	241.6	200.6	168.8	145.9	136.8	123.1
65°	383.0	342.0	287.2	237.1	214.2	187.0	150.5	123.1	104.9	91.2	82.1
67.5°	310.0	278.1	232.5	187.0	164.1	145.9	114.0	91.2	73.0	63.9	59.2
70°	246.2	214.2	177.9	141.4	127.6	109.4	86.6	63.9	54.8	45.6	41.0
72.5°	182.4	159.6	132.2	104.9	91.2	82.1	59.2	50.1	36.5	31.9	27.4
75°	132.2	114.0	95.8	73.0	63.9	59.2	45.6	31.9	27.4	22.8	18.2
77.5°	91.2	82.1	63.9	50.1	45.6	41.0	31.9	22.8	18.2	13.6	13.6
80°	59.2	50.1	41.0	31.9	31.9	27.4	18.2	13.6	13.6	9.1	9.1
82.5°	36.5	31.9	27.4	22.8	18.2	18.2	13.6	9.1	9.1	4.5	4.5
85°	22.8	18.2	13.6	13.6	9.1	9.1	9.1	4.5	4.5	4.5	4.5
87.5°	9.1	9.1	9.1	4.5	4.5	4.5	4.5	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P252299

CATALOG NUMBER: LE_6B50D010R EC6B30508035 6LBSW1H

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2
2.5°	3770.8	3770.8	3779.9	3766.1	3775.2	3775.2	3784.4	3766.1	3775.2	3779.9	3789.0
5°	3752.5	3757.1	3766.1	3761.6	3766.1	3766.1	3775.2	3752.5	3770.8	3770.8	3784.4
7.5°	3734.2	3734.2	3743.4	3738.9	3748.0	3752.5	3761.6	3743.4	3761.6	3761.6	3775.2
10°	3711.5	3711.5	3725.1	3720.6	3734.2	3738.9	3752.5	3734.2	3752.5	3757.1	3770.8
12.5°	3679.5	3684.1	3697.8	3697.8	3711.5	3720.6	3734.2	3725.1	3748.0	3752.5	3770.8
15°	3643.1	3652.2	3670.4	3665.9	3679.5	3693.2	3711.5	3697.8	3729.8	3738.9	3757.1
17.5°	3597.5	3606.6	3620.2	3620.2	3634.0	3643.1	3665.9	3656.8	3684.1	3688.6	3711.5
20°	3529.1	3542.8	3561.0	3556.5	3570.1	3579.2	3597.5	3588.4	3615.8	3624.9	3647.6
22.5°	3447.0	3456.1	3469.9	3469.9	3483.5	3492.6	3510.9	3497.1	3524.5	3529.1	3547.4
25°	3337.6	3346.8	3355.9	3360.4	3374.1	3378.6	3387.8	3378.6	3401.4	3406.0	3428.8
27.5°	3196.2	3200.8	3214.5	3214.5	3223.6	3228.1	3241.9	3223.6	3255.5	3255.5	3269.2
30°	3027.5	3023.0	3041.2	3032.1	3041.2	3041.2	3054.9	3045.8	3068.6	3059.5	3073.1
32.5°	2804.1	2813.2	2813.2	2804.1	2822.4	2817.8	2817.8	2808.6	2822.4	2826.9	2836.0
35°	2544.2	2557.9	2557.9	2562.5	2567.0	2553.4	2557.9	2530.5	2553.4	2557.9	2562.5
37.5°	2261.5	2247.9	2257.0	2243.2	2266.1	2238.8	2238.8	2220.5	2238.8	2238.8	2243.2
40°	1937.8	1933.2	1942.4	1933.2	1928.8	1924.1	1915.0	1901.4	1919.6	1910.5	1924.1
42.5°	1632.4	1627.8	1627.8	1618.6	1614.1	1614.1	1605.0	1595.9	1591.2	1591.2	1614.1
45°	1317.8	1326.9	1317.8	1313.1	1322.2	1313.1	1317.8	1299.5	1308.6	1299.5	1308.6
47.5°	1053.2	1057.9	1048.8	1039.6	1053.2	1039.6	1039.6	1025.9	1044.1	1044.1	1035.0
50°	816.1	811.6	802.5	811.6	807.0	807.0	807.0	793.4	802.5	788.8	797.9
52.5°	601.9	597.2	597.2	592.8	597.2	592.8	592.8	588.1	588.1	583.6	588.1
55°	437.8	433.1	424.0	424.0	424.0	428.6	424.0	419.5	419.5	414.9	419.5
57.5°	296.4	287.2	287.2	287.2	287.2	282.8	282.8	278.1	282.8	278.1	282.8
60°	191.5	191.5	182.4	182.4	182.4	182.4	182.4	177.9	182.4	182.4	182.4
62.5°	118.5	118.5	114.0	109.4	114.0	109.4	109.4	109.4	114.0	109.4	114.0
65°	77.5	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
67.5°	54.8	50.1	50.1	50.1	50.1	50.1	50.1	45.6	50.1	50.1	50.1
70°	36.5	36.5	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
72.5°	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
75°	18.2	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
77.5°	13.6	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
80°	9.1	9.1	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
82.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
85°	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P252299

CATALOG NUMBER: LE_6B50D010R EC6B30508035 6LBSW1H

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2	3775.2
2.5°	3775.2	3779.9	3770.8	3775.2	3766.1	3775.2	3779.9	3789.0
5°	3766.1	3770.8	3761.6	3770.8	3761.6	3770.8	3775.2	3784.4
7.5°	3757.1	3766.1	3757.1	3766.1	3757.1	3766.1	3770.8	3779.9
10°	3757.1	3770.8	3761.6	3775.2	3761.6	3770.8	3779.9	3784.4
12.5°	3757.1	3770.8	3766.1	3775.2	3770.8	3779.9	3789.0	3798.1
15°	3748.0	3761.6	3752.5	3766.1	3761.6	3766.1	3784.4	3784.4
17.5°	3697.8	3711.5	3711.5	3720.6	3720.6	3734.2	3743.4	3752.5
20°	3634.0	3647.6	3643.1	3656.8	3656.8	3670.4	3679.5	3688.6
22.5°	3538.2	3556.5	3551.9	3565.6	3561.0	3570.1	3588.4	3583.8
25°	3415.1	3437.9	3433.4	3442.5	3437.9	3437.9	3447.0	3451.6
27.5°	3264.6	3278.4	3273.8	3282.9	3273.8	3282.9	3292.0	3296.5
30°	3068.6	3077.8	3073.1	3077.8	3073.1	3082.2	3086.9	3095.9
32.5°	2831.5	2845.1	2831.5	2840.6	2836.0	2836.0	2854.2	2845.1
35°	2548.8	2553.4	2557.9	2557.9	2548.8	2553.4	2562.5	2562.5
37.5°	2234.1	2257.0	2229.6	2243.2	2238.8	2238.8	2238.8	2252.4
40°	1905.9	1910.5	1901.4	1901.4	1901.4	1896.8	1915.0	1910.5
42.5°	1595.9	1600.4	1595.9	1582.1	1586.8	1586.8	1600.4	1582.1
45°	1294.9	1304.0	1299.5	1299.5	1290.4	1290.4	1294.9	1285.8
47.5°	1025.9	1035.0	1021.4	1025.9	1016.8	1025.9	1021.4	1030.5
50°	779.6	788.8	784.2	788.8	788.8	779.6	793.4	775.1
52.5°	583.6	588.1	583.6	579.0	574.5	574.5	583.6	579.0
55°	414.9	410.4	410.4	410.4	414.9	414.9	410.4	405.8
57.5°	278.1	278.1	273.6	273.6	278.1	269.0	273.6	269.0
60°	177.9	177.9	177.9	177.9	173.2	177.9	177.9	177.9
62.5°	109.4	109.4	109.4	109.4	109.4	109.4	109.4	109.4
65°	73.0	73.0	73.0	73.0	73.0	73.0	73.0	73.0
67.5°	45.6	50.1	50.1	50.1	45.6	45.6	45.6	45.6
70°	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
72.5°	22.8	22.8	22.8	22.8	22.8	22.8	22.8	22.8
75°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
77.5°	9.1	9.1	9.1	9.1	9.1	9.1	9.1	9.1
80°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
82.5°	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	4.5	4.5	4.5	4.5	4.5	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By E9808895 / USPTCWHP6082093





— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)