

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: P252164

Luminaire Tested: **LE_6B20D010 EC6B10209050 6LBSW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P252164
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-1)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LE_6B20D010 EC6B10209050 6LBSW1LI
Description: PORTFOLIO 6 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2826.3 lumens
Efficiency: N/A
Efficacy: 135.9 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.29 / 1.21
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

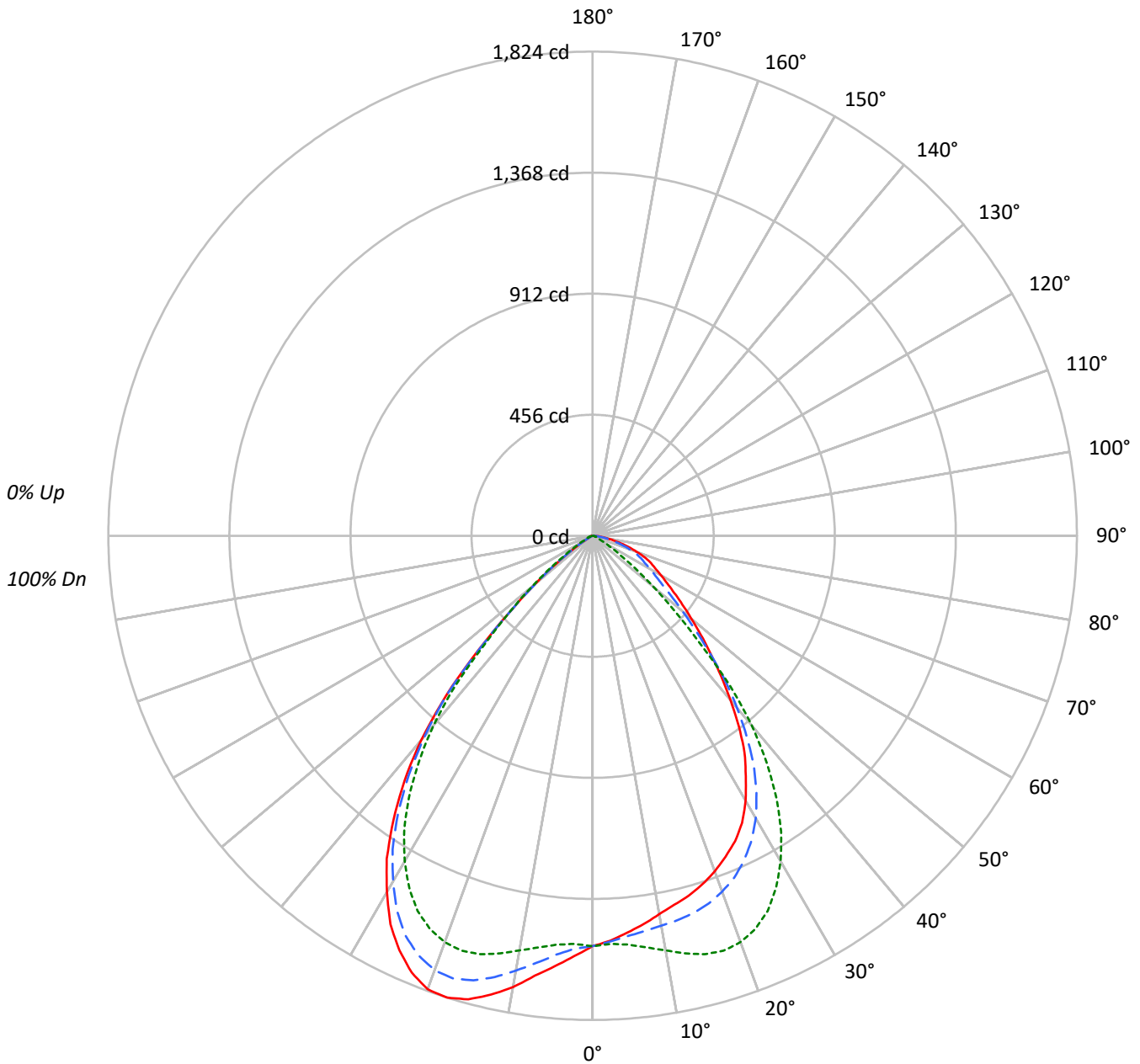
Input Watts (W): 20.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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								
1	112	108	105	103	109	106	103	101	102	100	98	98	96	95	95	93	92	90								
2	105	98	93	89	102	97	92	88	93	89	86	90	87	84	87	85	82	80								
3	98	89	83	78	95	88	82	78	85	80	76	83	78	75	80	77	74	72								
4	91	82	75	69	89	80	74	69	78	72	68	76	71	67	74	70	66	65								
5	85	75	67	62	83	74	67	62	72	66	61	70	65	61	68	64	60	58								
6	80	69	61	56	78	68	61	56	66	60	55	64	59	55	63	58	54	53								
7	74	63	56	51	73	62	55	50	61	55	50	60	54	50	58	53	50	48								
8	70	58	51	46	69	58	51	46	57	50	46	55	50	46	54	49	45	44								
9	66	54	47	42	64	54	47	42	53	46	42	52	46	42	51	45	42	40								
10	62	50	43	39	61	50	43	39	49	43	39	48	43	39	47	42	38	37								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	100869	100869	100869
5°	98261	101254	106585
10°	95866	105074	114376
15°	94748	110222	122109
20°	93387	113098	126226
25°	91407	112261	123965
30°	86859	106680	116699
35°	79469	96178	104190
40°	68737	79442	85489
45°	57960	52092	55912
50°	49216	30155	28358
55°	42711	14457	10931
60°	38570	6759	2714
65°	37420	3875	911
70°	33553	3090	839
75°	27577	2243	378
80°	20589	1127	0
85°	17666	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.3	5.3
10°-20°	455.2	16.1
20°-30°	695.4	24.6
30°-40°	727.4	25.7
40°-50°	471.8	16.7
50°-60°	187.4	6.6
60°-70°	88.9	3.1
70°-80°	42.3	1.5
80°-90°	8.6	0.3
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°	1299.9	46.0
0°-40°	2027.3	71.7
0°-60°	2686.5	95.1
0°-90°	2826.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2826.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1546	1546	1546	1546	1546	
5°	1500	1514	1546	1585	1628	142
15°	1403	1471	1632	1734	1808	395
25°	1270	1350	1560	1664	1722	581
35°	998	1058	1208	1279	1308	617
45°	628	622	565	599	606	489
55°	376	319	127	99	96	340
65°	242	201	25	6	6	237
75°	109	89	9	3	2	118
85°	24	15	0	0	0	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1
2.5°	1527.0	1529.9	1513.6	1509.2	1521.0	1525.5	1527.0	1522.5	1524.0	1529.9	1529.9
5°	1500.4	1503.4	1488.5	1484.1	1495.9	1498.9	1503.4	1501.9	1506.2	1515.1	1513.6
7.5°	1475.2	1479.6	1463.4	1457.5	1472.2	1479.6	1482.6	1482.6	1488.5	1500.4	1501.9
10°	1447.1	1453.0	1438.2	1435.4	1451.6	1459.0	1460.5	1463.4	1472.2	1488.5	1491.5
12.5°	1423.5	1429.4	1419.0	1414.6	1432.4	1439.8	1442.8	1448.6	1459.0	1479.6	1482.6
15°	1402.8	1407.2	1395.4	1392.5	1410.2	1419.0	1420.5	1429.4	1442.8	1466.4	1470.8
17.5°	1376.2	1379.1	1370.2	1367.4	1385.0	1393.9	1395.4	1405.8	1422.0	1445.6	1453.0
20°	1345.1	1348.1	1339.2	1336.2	1354.0	1364.4	1365.9	1374.8	1393.9	1419.0	1426.5
22.5°	1308.2	1314.1	1303.8	1300.8	1318.5	1327.4	1331.9	1339.2	1358.5	1383.6	1393.9
25°	1269.8	1269.8	1262.4	1260.9	1277.1	1287.5	1286.0	1296.4	1315.6	1340.8	1349.6
27.5°	1219.5	1218.0	1210.6	1209.1	1226.9	1235.8	1232.8	1243.1	1260.9	1286.0	1294.9
30°	1153.0	1156.0	1145.6	1142.6	1157.4	1172.2	1170.8	1181.1	1198.8	1222.5	1228.4
32.5°	1073.1	1076.1	1074.6	1070.2	1083.5	1090.9	1095.4	1102.8	1117.5	1142.6	1148.5
35°	997.8	993.4	987.4	987.4	1000.8	1012.5	1008.1	1017.0	1031.8	1056.9	1058.4
37.5°	904.6	903.1	900.2	897.2	912.0	915.0	916.5	922.4	935.8	956.4	953.4
40°	807.1	808.6	807.1	801.1	810.0	821.9	820.4	823.4	835.1	850.0	845.5
42.5°	715.5	715.5	715.5	709.5	719.9	725.8	728.8	727.2	730.2	743.5	737.6
45°	628.2	629.8	628.2	626.8	628.2	631.1	628.2	626.8	626.8	631.1	622.4
47.5°	552.9	552.9	548.4	544.0	548.4	549.9	545.5	541.0	539.5	538.0	523.2
50°	484.9	483.4	481.9	474.5	478.9	480.4	474.5	471.5	465.6	458.2	440.5
52.5°	425.8	424.2	422.8	415.4	418.4	419.8	413.9	408.0	400.6	394.6	372.5
55°	375.5	374.0	374.0	369.5	366.6	369.5	363.6	359.2	348.9	341.5	319.2
57.5°	332.6	332.6	329.6	325.2	326.6	326.6	320.8	314.9	306.0	297.1	279.4
60°	295.6	295.6	295.6	291.2	291.2	291.2	288.2	282.4	275.0	266.1	248.4
62.5°	266.1	266.1	264.6	260.1	261.6	261.6	258.6	252.8	245.4	239.5	221.8
65°	242.4	242.4	242.4	238.0	238.0	239.5	236.5	230.6	224.6	217.2	201.0
67.5°	212.9	211.4	211.4	208.4	209.9	211.4	208.4	204.0	196.6	192.1	177.4
70°	175.9	177.4	178.9	174.4	175.9	175.9	174.4	170.0	165.5	161.1	147.9
72.5°	143.4	143.4	141.9	140.4	140.4	141.9	139.0	134.5	131.5	128.6	118.2
75°	109.4	107.9	109.4	106.4	106.4	106.4	103.5	102.0	100.5	96.1	88.8
77.5°	79.9	78.4	78.4	75.4	76.9	76.9	75.4	72.4	69.5	68.0	62.1
80°	54.8	54.8	54.8	53.2	53.2	51.8	51.8	50.2	47.2	45.9	42.9
82.5°	37.0	37.0	37.0	35.5	35.5	35.5	34.0	32.5	31.0	29.6	26.6
85°	23.6	23.6	23.6	22.1	22.1	22.1	20.8	20.8	19.2	17.8	14.8
87.5°	13.2	13.2	13.2	11.9	11.9	11.9	11.9	11.9	10.4	8.9	7.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1
2.5°	1540.2	1519.6	1532.9	1532.9	1528.5	1540.2	1547.6	1553.6	1552.1	1538.8	1537.4
5°	1528.5	1510.8	1525.5	1527.0	1522.5	1538.8	1549.1	1556.5	1558.0	1546.1	1547.6
7.5°	1519.6	1504.8	1524.0	1529.9	1528.5	1543.2	1555.0	1566.9	1572.8	1563.9	1565.4
10°	1515.1	1503.4	1524.0	1532.9	1534.4	1550.6	1568.4	1584.6	1592.0	1586.1	1590.5
12.5°	1509.2	1501.9	1525.5	1538.8	1544.8	1561.0	1583.1	1602.4	1614.1	1611.2	1620.1
15°	1503.4	1497.4	1525.5	1544.8	1552.1	1566.9	1592.0	1620.1	1633.4	1631.9	1643.8
17.5°	1488.5	1487.0	1516.6	1537.4	1547.6	1565.4	1589.0	1623.0	1636.4	1639.2	1654.1
20°	1464.9	1464.9	1497.4	1519.6	1531.4	1547.6	1577.2	1609.8	1626.0	1629.0	1645.2
22.5°	1432.4	1435.4	1466.4	1488.5	1506.2	1518.1	1549.1	1583.1	1597.9	1602.4	1620.1
25°	1389.5	1392.5	1422.0	1444.1	1463.4	1476.8	1506.2	1537.4	1555.0	1559.5	1572.8
27.5°	1333.4	1339.2	1367.4	1389.5	1405.8	1414.6	1445.6	1478.1	1491.5	1495.9	1509.2
30°	1268.2	1269.8	1297.9	1317.1	1333.4	1340.8	1367.4	1401.4	1411.6	1416.1	1435.4
32.5°	1188.5	1187.0	1213.6	1231.4	1244.6	1253.5	1281.6	1303.8	1314.1	1321.5	1331.9
35°	1092.4	1090.9	1110.1	1130.8	1141.1	1144.1	1172.2	1195.9	1201.8	1207.6	1221.0
37.5°	984.5	984.5	1000.8	1011.1	1022.9	1027.4	1040.6	1067.2	1077.6	1076.1	1086.5
40°	870.6	864.8	876.6	886.9	889.9	891.4	904.6	925.4	932.8	932.8	940.1
42.5°	750.9	742.0	743.5	749.5	752.4	742.0	750.9	764.2	759.8	765.8	767.1
45°	623.8	610.5	604.6	591.2	594.2	583.9	578.0	580.9	579.5	564.6	567.6
47.5°	520.4	496.6	486.4	467.1	462.6	450.9	443.5	430.1	418.4	418.4	410.9
50°	433.1	409.5	388.8	366.6	359.2	348.9	332.6	314.9	306.0	297.1	289.8
52.5°	363.6	338.5	313.4	289.8	279.4	266.1	243.9	226.1	209.9	201.0	192.1
55°	307.5	279.4	252.8	227.6	214.4	201.0	178.9	158.1	139.0	127.1	119.8
57.5°	264.6	238.0	209.9	183.2	171.5	156.8	133.0	110.9	93.1	79.9	72.4
60°	233.5	207.0	181.9	153.8	141.9	127.1	102.0	81.2	63.5	51.8	42.9
62.5°	207.0	183.2	156.8	131.5	119.8	105.0	81.2	60.6	44.4	32.5	25.1
65°	187.8	164.1	141.9	116.8	106.4	91.6	69.5	50.2	35.5	25.1	17.8
67.5°	165.5	144.9	122.8	102.0	91.6	79.9	59.1	42.9	29.6	20.8	14.8
70°	139.0	122.8	103.5	84.2	76.9	66.5	48.8	35.5	23.6	16.2	11.9
72.5°	110.9	97.5	82.8	68.0	62.1	51.8	39.9	28.1	17.8	11.9	8.9
75°	84.2	73.9	62.1	51.8	45.9	39.9	29.6	20.8	13.2	8.9	5.9
77.5°	57.6	53.2	44.4	35.5	32.5	28.1	19.2	13.2	8.9	5.9	3.0
80°	39.9	35.5	29.6	23.6	20.8	17.8	11.9	8.9	4.4	3.0	1.5
82.5°	25.1	20.8	17.8	14.8	13.2	10.4	7.4	4.4	3.0	1.5	1.5
85°	13.2	11.9	10.4	7.4	7.4	5.9	4.4	3.0	1.5	0.0	0.0
87.5°	7.4	5.9	4.4	3.0	3.0	1.5	1.5	1.5	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1
2.5°	1555.0	1555.0	1553.6	1571.2	1550.6	1571.2	1561.0	1571.2	1556.5	1555.0	1556.5
5°	1566.9	1571.2	1572.8	1589.0	1569.9	1595.0	1586.1	1595.0	1584.6	1587.6	1592.0
7.5°	1590.5	1597.9	1596.5	1617.1	1597.9	1626.0	1620.1	1633.4	1623.0	1626.0	1631.9
10°	1617.1	1626.0	1627.5	1648.1	1630.5	1664.4	1657.0	1671.9	1663.0	1667.4	1674.8
12.5°	1648.1	1658.5	1660.0	1683.6	1664.4	1699.9	1695.5	1710.2	1702.9	1707.2	1716.1
15°	1671.9	1686.6	1689.6	1713.2	1692.5	1729.5	1726.5	1745.8	1733.9	1741.2	1748.8
17.5°	1683.6	1697.0	1702.9	1725.0	1707.2	1744.2	1741.2	1757.5	1748.8	1756.1	1765.0
20°	1676.2	1692.5	1697.0	1719.1	1701.4	1738.4	1733.9	1750.1	1741.2	1747.2	1756.1
22.5°	1649.6	1665.9	1671.9	1692.5	1676.2	1710.2	1708.8	1723.6	1711.8	1719.1	1726.5
25°	1602.4	1620.1	1623.0	1642.2	1624.5	1660.0	1657.0	1673.2	1664.4	1668.9	1679.2
27.5°	1534.4	1555.0	1559.5	1575.8	1562.5	1592.0	1592.0	1605.2	1595.0	1595.0	1605.2
30°	1453.0	1473.8	1476.8	1490.0	1478.1	1504.8	1506.2	1519.6	1503.4	1512.1	1513.6
32.5°	1354.0	1367.4	1376.2	1388.0	1370.2	1404.2	1399.9	1410.2	1401.4	1401.4	1408.8
35°	1234.2	1250.5	1255.0	1269.8	1255.0	1281.6	1281.6	1287.5	1278.6	1278.6	1290.5
37.5°	1104.2	1116.0	1117.5	1132.2	1120.5	1142.6	1141.1	1145.6	1136.8	1142.6	1142.6
40°	952.0	960.9	963.8	971.1	969.8	986.0	984.5	987.4	983.0	984.5	987.4
42.5°	774.6	786.4	792.2	798.2	789.4	811.5	807.1	811.5	810.0	811.5	816.0
45°	570.6	579.5	583.9	585.4	582.4	595.8	606.0	597.1	598.6	595.8	601.6
47.5°	412.4	413.9	410.9	419.8	412.4	418.4	421.2	422.8	413.9	412.4	418.4
50°	282.4	289.8	279.4	283.8	282.4	288.2	285.2	286.8	277.9	282.4	279.4
52.5°	187.8	186.2	183.2	184.8	181.9	181.9	181.9	184.8	178.9	175.9	173.0
55°	113.9	110.9	105.0	103.5	103.5	105.0	102.0	99.0	99.0	97.5	97.5
57.5°	66.5	62.1	59.1	57.6	54.8	53.2	51.8	51.8	48.8	48.8	48.8
60°	37.0	32.5	29.6	26.6	26.6	25.1	23.6	22.1	22.1	22.1	20.8
62.5°	19.2	16.2	13.2	11.9	11.9	10.4	8.9	8.9	8.9	8.9	7.4
65°	13.2	10.4	8.9	7.4	7.4	5.9	5.9	5.9	5.9	5.9	5.9
67.5°	10.4	8.9	7.4	5.9	5.9	5.9	4.4	4.4	4.4	4.4	4.4
70°	8.9	5.9	5.9	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
72.5°	5.9	5.9	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
75°	4.4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
77.5°	1.5	1.5	1.5	1.5	1.5	1.5	0.0	0.0	0.0	0.0	0.0
80°	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	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	0.0	0.0	0.0	0.0	0.0	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: P252164

CATALOG NUMBER: LE_6B20D010 EC6B10209050 6LBSW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1	1546.1
2.5°	1569.9	1568.4	1569.9	1572.8	1566.9	1584.6	1575.8	1584.6
5°	1603.9	1605.2	1606.8	1611.2	1603.9	1626.0	1614.1	1627.5
7.5°	1648.1	1649.6	1651.1	1655.6	1651.1	1673.2	1660.0	1671.9
10°	1694.0	1697.0	1697.0	1704.4	1699.9	1720.6	1711.8	1726.5
12.5°	1736.9	1739.9	1742.8	1747.2	1744.2	1766.4	1759.0	1770.9
15°	1770.9	1776.8	1778.2	1784.1	1781.2	1804.9	1796.0	1807.9
17.5°	1787.1	1793.0	1793.0	1800.4	1797.5	1822.6	1810.8	1824.1
20°	1778.2	1782.8	1784.1	1791.5	1788.6	1813.8	1801.9	1818.1
22.5°	1750.1	1751.6	1753.1	1760.5	1759.0	1781.2	1770.9	1781.2
25°	1698.4	1702.9	1701.4	1707.2	1707.2	1725.0	1713.2	1722.1
27.5°	1624.5	1629.0	1629.0	1636.4	1630.5	1648.1	1636.4	1649.6
30°	1534.4	1538.8	1535.9	1541.8	1535.9	1553.6	1544.8	1549.1
32.5°	1426.5	1426.5	1427.9	1429.4	1426.5	1442.8	1433.9	1442.8
35°	1297.9	1300.8	1302.2	1303.8	1300.8	1312.6	1302.2	1308.2
37.5°	1153.0	1160.4	1158.9	1160.4	1156.0	1170.8	1161.9	1164.8
40°	997.8	997.8	996.2	999.2	994.9	1006.6	1000.8	1003.8
42.5°	817.4	821.9	816.0	823.4	811.5	827.8	821.9	817.4
45°	613.5	607.5	606.0	607.5	603.1	604.6	609.0	606.0
47.5°	418.4	418.4	415.4	410.9	416.9	418.4	412.4	412.4
50°	280.9	280.9	277.9	276.4	279.4	277.9	275.0	279.4
52.5°	178.9	173.0	173.0	175.9	173.0	170.0	174.4	171.5
55°	97.5	94.6	94.6	97.5	94.6	94.6	93.1	96.1
57.5°	47.2	48.8	47.2	47.2	47.2	47.2	45.9	47.2
60°	20.8	20.8	20.8	20.8	20.8	20.8	20.8	20.8
62.5°	8.9	8.9	7.4	7.4	7.4	7.4	7.4	7.4
65°	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
67.5°	4.4	4.4	4.4	4.4	4.4	5.9	4.4	4.4
70°	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
72.5°	4.4	4.4	5.9	5.9	5.9	5.9	5.9	5.9
75°	3.0	3.0	3.0	1.5	1.5	1.5	1.5	1.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	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



Report Generated By E9808895 / USPTCWHP6082093





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













(END OF REPORT)