

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: io LED

Report Number: P135949

Luminaire Tested: **LD6A20D010TE ERM6A20930 6LM121H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135949
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23373)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A20D010TE ERM6A20930 6LM121H
Description: PORTFOLIO 6 INCH 50 DEGREE CUTOFF RECESSED DOUBLE WALL WASH LUMINAIRE
SEMI-SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER
Light Source: (1) HIGH LUMEN LED 3000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2143.6 lumens
Efficiency: N/A
Efficacy: 65.4 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 1.06 / 1.01
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

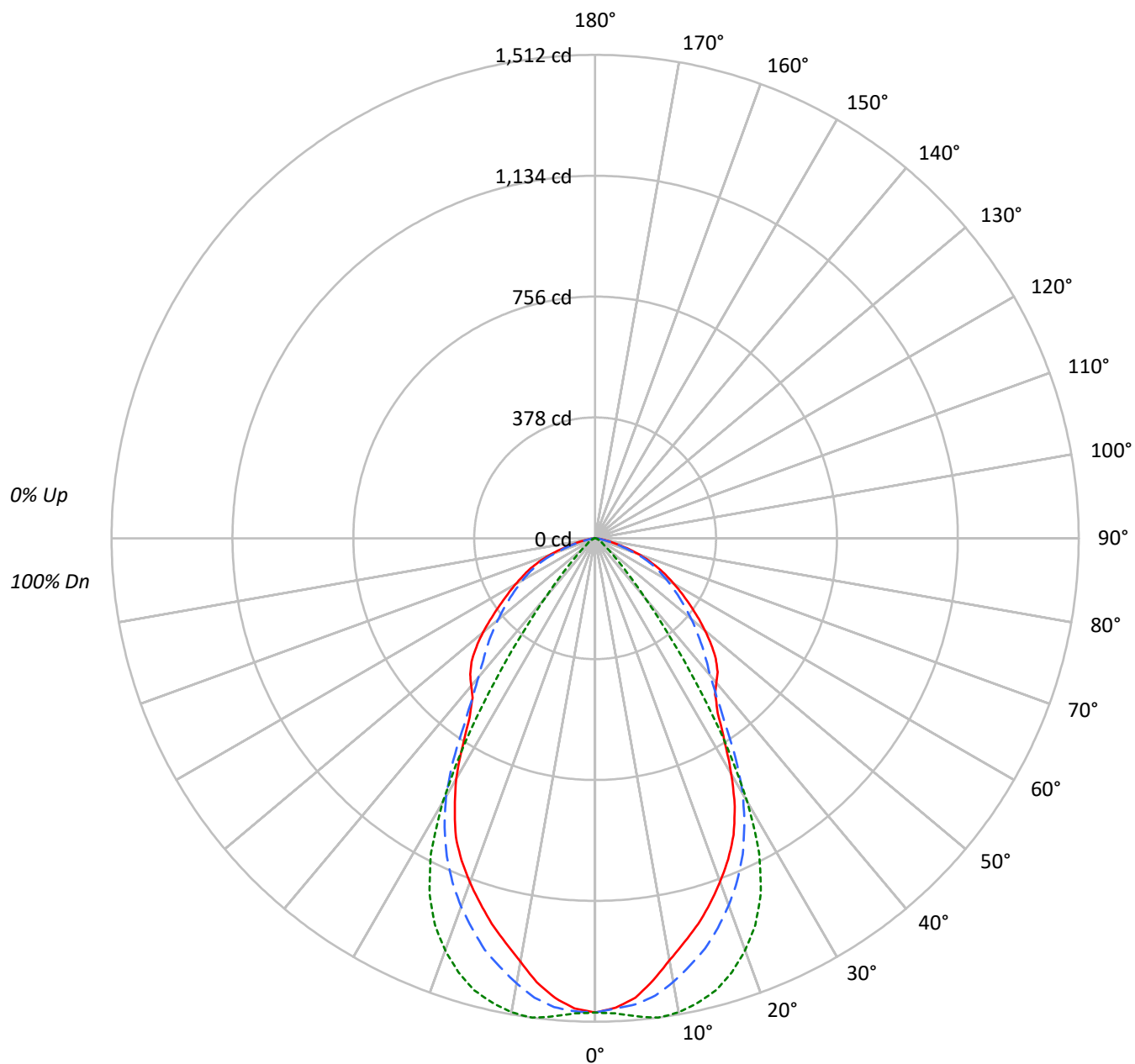
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	111	108	104	102	109	106	103	100	101	99	97		98	96	94		94
2	104	97	92	87	101	95	90	86	92	88	84		89	85	82		86
3	96	88	81	76	94	86	80	75	84	78	74		81	77	73		79
4	90	80	73	67	88	79	72	67	76	71	66		74	69	65		72
5	84	73	66	60	82	72	65	60	70	64	59		68	63	59		67
6	78	67	60	54	77	66	59	54	65	58	54		63	57	53		62
7	74	62	55	49	72	61	54	49	60	53	49		59	53	49		57
8	69	58	50	45	68	57	50	45	56	49	45		55	49	45		53
9	65	54	46	42	64	53	46	41	52	46	41		51	45	41		50
10	62	50	43	38	61	50	43	38	49	43	38		48	42	38		47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	96758	96758	96758
5°	94489	98300	94489
10°	88758	99735	89056
15°	84286	98807	84286
20°	79328	95192	79481
25°	73706	88218	74188
30°	64139	71725	65487
35°	53170	43358	54421
40°	50188	20227	51321
45°	49195	9512	50441
50°	45481	5004	46384
55°	41027	3310	41278
60°	37122	2636	37409
65°	33206	2084	34240
70°	27354	1698	28212
75°	18073	1134	18073
80°	10106	827	10106
85°	6662	0	5015



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.4	6.5
10°-20°	375.3	17.5
20°-30°	501.7	23.4
30°-40°	414.8	19.4
40°-50°	297.6	13.9
50°-60°	218.8	10.2
60°-70°	141.2	6.6
70°-80°	50.0	2.3
80°-90°	5.8	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°	1015.3	47.4
0°-40°	1430.1	66.7
0°-60°	1946.5	90.8
0°-90°	2143.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2143.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1483	1483	1483	1483	1483	
5°	1443	1463	1501	1472	1443	134
15°	1248	1328	1463	1333	1248	350
25°	1024	1091	1226	1098	1031	465
35°	668	708	544	715	683	430
45°	533	470	103	477	547	407
55°	361	320	29	325	363	324
65°	215	199	14	202	222	212
75°	72	58	4	58	72	81
85°	9	4	0	4	7	11
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1
2.5°	1469.7	1458.5	1467.5	1458.5	1460.7	1469.7	1472.0	1476.4	1478.6	1472.0	1472.0
5°	1442.8	1431.6	1442.8	1433.8	1438.3	1449.6	1451.8	1460.7	1465.2	1462.9	1467.5
7.5°	1393.5	1384.6	1395.7	1389.0	1395.7	1411.4	1418.1	1429.4	1438.3	1442.8	1449.6
10°	1339.8	1330.8	1342.0	1335.2	1346.5	1364.4	1371.1	1384.6	1398.0	1409.2	1420.4
12.5°	1292.7	1283.7	1290.4	1288.2	1299.5	1315.1	1326.3	1342.0	1357.6	1368.9	1384.6
15°	1247.9	1238.9	1247.9	1243.4	1252.4	1270.3	1281.5	1297.2	1315.1	1328.5	1346.5
17.5°	1196.4	1187.4	1194.1	1191.9	1200.8	1216.5	1227.7	1243.4	1261.3	1277.1	1294.9
20°	1142.6	1133.6	1140.3	1135.9	1144.8	1162.7	1171.7	1189.7	1205.3	1221.0	1236.7
22.5°	1086.6	1077.6	1086.6	1079.8	1093.3	1104.5	1113.5	1131.4	1144.8	1160.5	1174.0
25°	1023.9	1014.9	1021.6	1017.2	1026.1	1039.6	1046.3	1064.2	1075.4	1091.1	1104.5
27.5°	945.4	934.3	947.7	938.7	949.9	961.1	967.8	983.5	997.0	1010.4	1021.6
30°	851.4	842.3	855.8	849.1	862.5	871.5	880.5	896.2	907.3	923.0	925.3
32.5°	752.8	748.3	759.5	755.0	768.5	777.4	784.2	799.8	808.8	817.7	811.0
35°	667.6	663.2	674.4	672.1	683.3	690.0	696.8	705.7	705.7	708.0	690.0
37.5°	616.1	613.9	622.8	620.6	629.5	636.3	636.3	638.5	634.1	622.8	596.0
40°	589.3	586.9	593.7	591.5	598.2	600.4	598.2	593.7	580.2	557.8	522.0
42.5°	566.8	562.3	566.8	564.5	569.1	571.3	564.5	557.8	539.9	513.1	470.5
45°	533.2	528.8	535.5	531.0	535.5	535.5	528.8	519.7	499.6	470.5	425.7
47.5°	492.9	488.4	495.1	490.7	495.1	495.1	488.4	479.4	459.2	430.1	385.3
50°	448.1	443.6	448.1	445.9	450.3	452.5	443.6	436.8	419.0	392.0	347.2
52.5°	403.3	398.8	403.3	403.3	405.5	405.5	398.8	394.3	378.7	354.0	313.7
55°	360.7	356.3	362.9	360.7	362.9	362.9	356.3	351.7	340.5	320.4	282.3
57.5°	320.4	318.1	322.6	320.4	320.4	320.4	315.9	313.7	304.7	286.7	255.4
60°	284.5	280.0	282.3	282.3	282.3	284.5	280.0	277.8	271.1	257.6	228.6
62.5°	248.7	246.5	248.7	246.5	246.5	248.7	246.5	244.2	239.7	228.6	203.9
65°	215.1	210.6	215.1	212.8	212.8	212.8	210.6	210.6	206.2	199.4	177.0
67.5°	179.2	177.0	179.2	177.0	174.7	174.7	172.5	172.5	170.3	165.8	145.6
70°	143.4	138.9	141.2	136.6	138.9	134.4	134.4	132.2	129.9	127.7	112.0
72.5°	105.3	103.1	103.1	98.6	98.6	96.3	94.1	94.1	91.8	91.8	80.7
75°	71.7	71.7	69.4	65.0	67.2	62.7	62.7	62.7	60.5	58.3	51.5
77.5°	47.0	44.8	44.8	42.6	42.6	38.1	40.3	38.1	38.1	35.9	31.3
80°	26.9	26.9	26.9	24.6	24.6	22.4	22.4	22.4	20.2	20.2	17.9
82.5°	15.7	15.7	15.7	13.5	13.5	13.5	13.5	11.2	11.2	11.2	8.9
85°	8.9	6.7	6.7	6.7	6.7	6.7	6.7	4.5	4.5	4.5	4.5
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	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):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1
2.5°	1480.9	1478.6	1476.4	1485.3	1487.6	1480.9	1480.9	1487.6	1492.1	1480.9	1478.6
5°	1478.6	1480.9	1480.9	1492.1	1498.8	1494.4	1494.4	1501.0	1505.5	1492.1	1487.6
7.5°	1467.5	1474.2	1478.6	1494.4	1505.5	1503.3	1505.5	1512.3	1514.5	1501.0	1494.4
10°	1442.8	1451.8	1460.7	1480.9	1494.4	1496.6	1498.8	1505.5	1510.1	1492.1	1483.1
12.5°	1409.2	1422.6	1436.1	1458.5	1474.2	1476.4	1483.1	1487.6	1489.9	1474.2	1462.9
15°	1371.1	1389.0	1402.5	1427.2	1445.1	1449.6	1456.2	1462.9	1462.9	1445.1	1433.8
17.5°	1324.1	1339.8	1357.6	1382.4	1402.5	1407.0	1415.9	1422.6	1422.6	1404.8	1389.0
20°	1265.8	1283.7	1299.5	1326.3	1348.7	1355.4	1364.4	1371.1	1371.1	1355.4	1335.2
22.5°	1205.3	1223.2	1238.9	1263.6	1286.0	1292.7	1299.5	1308.4	1306.1	1292.7	1274.8
25°	1133.6	1149.3	1160.5	1185.1	1203.1	1209.8	1218.8	1225.5	1223.2	1209.8	1194.1
27.5°	1046.3	1057.4	1059.7	1075.4	1091.1	1097.8	1104.5	1111.2	1109.0	1097.8	1084.4
30°	945.4	943.2	932.0	932.0	938.7	943.2	947.7	952.1	949.9	943.2	934.3
32.5°	817.7	802.0	772.9	757.2	750.5	750.5	750.5	755.0	752.8	750.5	750.5
35°	681.1	647.4	602.6	569.1	551.2	544.4	539.9	544.4	542.1	544.4	553.4
37.5°	569.1	519.7	459.2	414.4	385.3	371.9	362.9	365.2	365.2	371.9	387.6
40°	486.2	423.5	356.3	300.2	266.6	248.7	237.5	237.5	239.7	248.7	268.9
42.5°	423.5	354.0	280.0	226.3	186.0	168.0	156.8	154.6	156.8	168.0	188.2
45°	374.1	300.2	226.3	168.0	134.4	114.2	105.3	103.1	105.3	116.5	134.4
47.5°	331.6	257.6	188.2	129.9	96.3	80.7	71.7	69.4	73.9	82.9	98.6
50°	295.7	224.0	154.6	103.1	73.9	58.3	51.5	49.3	51.5	60.5	73.9
52.5°	262.1	194.9	129.9	80.7	56.0	44.8	38.1	35.9	38.1	44.8	58.3
55°	235.2	172.5	112.0	67.2	44.8	35.9	31.3	29.1	31.3	35.9	47.0
57.5°	210.6	152.3	96.3	56.0	38.1	29.1	24.6	24.6	24.6	29.1	38.1
60°	188.2	134.4	82.9	47.0	31.3	24.6	20.2	20.2	20.2	24.6	31.3
62.5°	168.0	118.8	71.7	40.3	26.9	20.2	17.9	17.9	17.9	20.2	26.9
65°	143.4	100.8	60.5	33.6	22.4	17.9	15.7	13.5	15.7	17.9	22.4
67.5°	118.8	82.9	49.3	26.9	17.9	13.5	11.2	11.2	11.2	13.5	17.9
70°	91.8	65.0	38.1	20.2	13.5	11.2	8.9	8.9	8.9	11.2	13.5
72.5°	62.7	44.8	26.9	15.7	11.2	8.9	6.7	6.7	6.7	8.9	11.2
75°	40.3	29.1	17.9	11.2	6.7	6.7	4.5	4.5	4.5	6.7	6.7
77.5°	24.6	17.9	11.2	6.7	4.5	4.5	4.5	4.5	4.5	4.5	4.5
80°	13.5	11.2	6.7	4.5	4.5	2.2	2.2	2.2	2.2	2.2	2.2
82.5°	6.7	6.7	4.5	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
85°	2.2	2.2	2.2	2.2	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



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CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1	1483.1
2.5°	1478.6	1483.1	1485.3	1476.4	1478.6	1480.9	1467.5	1469.7	1462.9	1476.4	1469.7
5°	1485.3	1487.6	1489.9	1476.4	1474.2	1472.0	1456.2	1454.0	1445.1	1456.2	1449.6
7.5°	1487.6	1483.1	1483.1	1462.9	1456.2	1449.6	1429.4	1422.6	1411.4	1415.9	1407.0
10°	1476.4	1467.5	1460.7	1436.1	1424.9	1413.7	1389.0	1380.0	1364.4	1366.6	1355.4
12.5°	1451.8	1440.5	1429.4	1402.5	1389.0	1373.3	1348.7	1335.2	1319.6	1319.6	1306.1
15°	1420.4	1407.0	1393.5	1366.6	1348.7	1333.0	1303.9	1290.4	1274.8	1272.5	1261.3
17.5°	1375.6	1360.0	1346.5	1315.1	1297.2	1279.3	1252.4	1236.7	1221.0	1221.0	1207.5
20°	1321.9	1303.9	1288.2	1259.1	1241.2	1225.5	1194.1	1180.7	1167.3	1165.0	1153.8
22.5°	1259.1	1241.2	1227.7	1200.8	1180.7	1165.0	1138.1	1126.9	1113.5	1111.2	1097.8
25°	1180.7	1165.0	1151.6	1129.2	1111.2	1097.8	1073.1	1059.7	1050.7	1050.7	1039.6
27.5°	1075.4	1062.0	1059.7	1041.8	1028.3	1019.4	999.2	990.2	979.1	979.1	965.6
30°	934.3	936.5	945.4	941.0	936.5	932.0	914.1	911.9	898.4	896.2	880.5
32.5°	761.8	777.4	802.0	815.5	822.2	826.7	822.2	817.7	806.6	804.3	786.4
35°	578.0	609.3	649.7	676.6	699.0	714.6	721.4	721.4	716.9	714.6	699.0
37.5°	419.0	466.0	519.7	564.5	600.4	629.5	643.0	651.9	651.9	651.9	645.2
40°	306.9	362.9	425.7	484.0	528.8	566.8	586.9	602.6	607.1	613.9	609.3
42.5°	228.6	289.0	356.3	423.5	474.9	517.5	544.4	562.3	573.6	580.2	580.2
45°	174.7	235.2	304.7	376.4	430.1	477.2	504.1	524.2	535.5	544.4	544.4
47.5°	134.4	192.7	262.1	333.9	389.8	436.8	463.8	481.7	492.9	501.8	501.8
50°	105.3	159.0	226.3	295.7	351.7	396.6	421.2	439.1	448.1	454.8	457.0
52.5°	85.1	134.4	199.4	266.6	318.1	358.5	378.7	394.3	403.3	407.7	410.0
55°	69.4	116.5	177.0	237.5	286.7	324.8	342.8	354.0	360.7	365.2	365.2
57.5°	58.3	100.8	156.8	215.1	262.1	291.3	306.9	315.9	320.4	324.8	324.8
60°	49.3	87.4	138.9	192.7	235.2	262.1	273.3	280.0	284.5	286.7	286.7
62.5°	42.6	73.9	121.0	170.3	208.4	233.0	241.9	246.5	248.7	248.7	251.0
65°	35.9	62.7	103.1	147.9	179.2	201.6	208.4	210.6	210.6	212.8	215.1
67.5°	26.9	49.3	82.9	121.0	147.9	165.8	172.5	172.5	172.5	172.5	174.7
70°	22.4	38.1	62.7	91.8	114.2	127.7	132.2	132.2	132.2	132.2	134.4
72.5°	15.7	26.9	44.8	65.0	82.9	91.8	91.8	94.1	91.8	91.8	96.3
75°	11.2	17.9	29.1	42.6	51.5	58.3	60.5	60.5	60.5	60.5	62.7
77.5°	6.7	11.2	17.9	24.6	33.6	35.9	38.1	38.1	38.1	38.1	40.3
80°	4.5	6.7	11.2	15.7	17.9	20.2	22.4	22.4	22.4	22.4	22.4
82.5°	2.2	4.5	6.7	6.7	8.9	11.2	11.2	11.2	11.2	11.2	13.5
85°	0.0	2.2	2.2	4.5	4.5	4.5	4.5	4.5	4.5	4.5	6.7
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: P135949

CATALOG NUMBER: LD6A20D010TE ERM6A20930 6LM121H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1483.1	1483.1	1483.1	1483.1
2.5°	1456.2	1472.0	1460.7	1472.0
5°	1433.8	1447.3	1433.8	1442.8
7.5°	1389.0	1400.2	1386.8	1400.2
10°	1335.2	1346.5	1333.0	1344.3
12.5°	1286.0	1294.9	1281.5	1294.9
15°	1241.2	1250.1	1236.7	1247.9
17.5°	1189.7	1196.4	1185.1	1196.4
20°	1135.9	1142.6	1133.6	1144.8
22.5°	1082.1	1091.1	1079.8	1091.1
25°	1021.6	1028.3	1017.2	1030.6
27.5°	949.9	954.4	943.2	949.9
30°	862.5	864.7	855.8	869.3
32.5°	770.7	770.7	757.2	770.7
35°	685.6	683.3	674.4	683.3
37.5°	631.8	631.8	625.0	629.5
40°	600.4	602.6	593.7	602.6
42.5°	573.6	578.0	571.3	578.0
45°	539.9	544.4	537.7	546.7
47.5°	497.3	501.8	497.3	504.1
50°	450.3	454.8	450.3	457.0
52.5°	403.3	407.7	403.3	407.7
55°	360.7	362.9	358.5	362.9
57.5°	320.4	322.6	318.1	322.6
60°	282.3	286.7	282.3	286.7
62.5°	248.7	251.0	251.0	253.2
65°	212.8	221.8	219.5	221.8
67.5°	177.0	183.8	183.8	186.0
70°	136.6	141.2	145.6	147.9
72.5°	96.3	103.1	105.3	107.5
75°	62.7	69.4	69.4	71.7
77.5°	40.3	44.8	44.8	44.8
80°	24.6	26.9	24.6	26.9
82.5°	13.5	13.5	13.5	15.7
85°	6.7	6.7	6.7	6.7
87.5°	2.2	2.2	2.2	2.2
90°	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)