

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: P251724

Luminaire Tested: **LD4B40D010 EU4B30509730 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251724
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-11)
Test Lab: INNOVATION CENTER(G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD4B40D010 EU4B30509730 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 97CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2469.0 lumens
Efficiency: N/A
Efficacy: 57.4 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.03 / 1.12
Luminous Opening: Circular (Dia: 0.38' x H: 0')
CIE Type: Direct

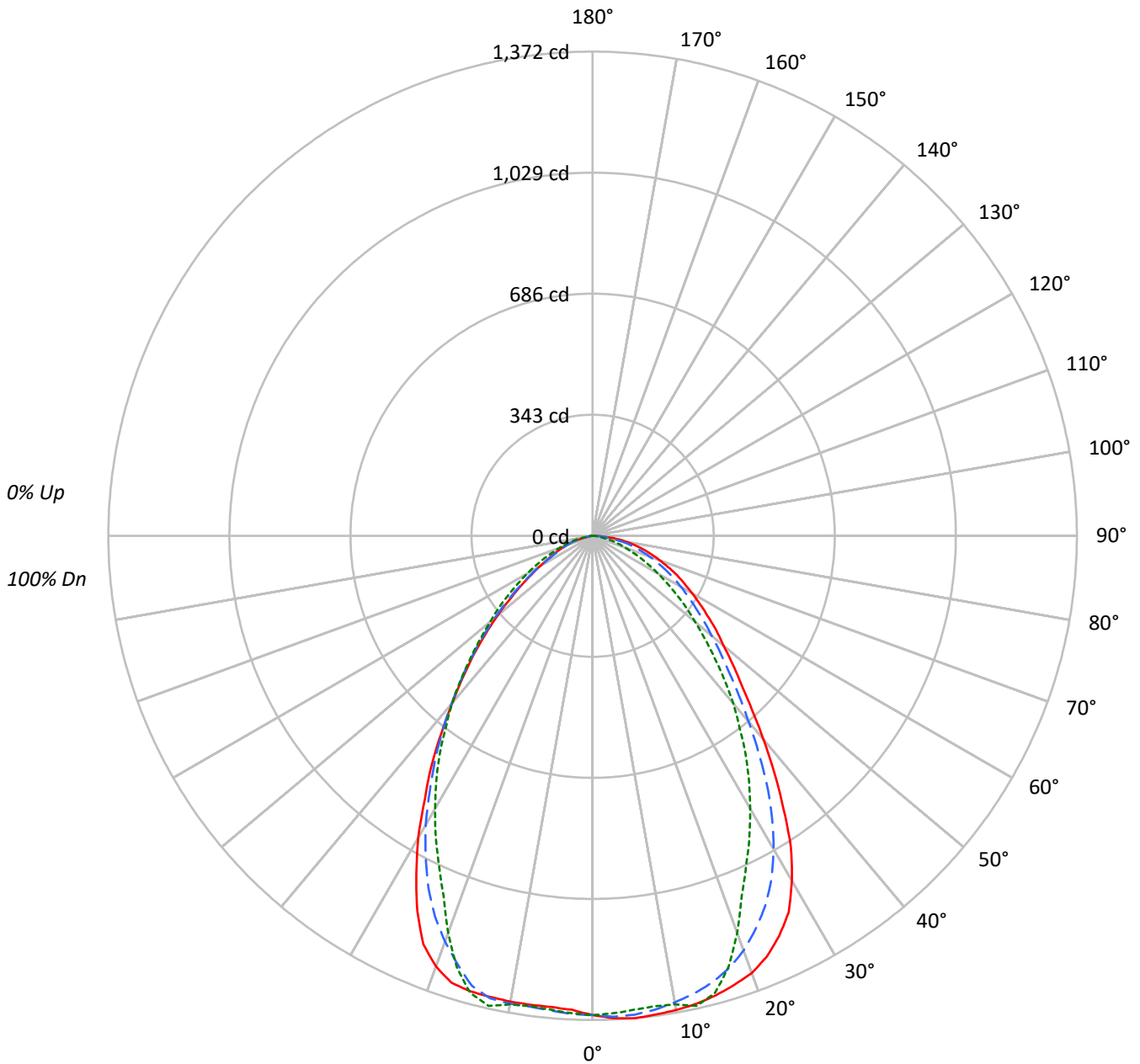
Input Watts (W): 43.02
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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			100
1	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88			88
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77			77
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67			67
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60			60
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53			53
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48			48
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43			43
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39			39
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36			36
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33			33

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	132377	132377	132377
5°	134243	131905	131132
10°	135013	133430	132648
15°	136038	135241	134837
20°	136745	124144	134671
25°	134492	110727	126362
30°	127086	100415	111173
35°	112074	89802	94787
40°	95773	78802	78547
45°	82076	67259	65605
50°	73383	57372	53445
55°	67676	49071	42308
60°	63270	41537	33389
65°	60626	34452	27557
70°	57332	27811	23280
75°	55503	22480	16493
80°	53654	12291	4490
85°	46741	6709	2236



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.0	5.2
10°-20°	371.2	15.0
20°-30°	514.9	20.9
30°-40°	508.3	20.6
40°-50°	398.7	16.1
50°-60°	276.1	11.2
60°-70°	169.2	6.9
70°-80°	84.6	3.4
80°-90°	16.9	0.7
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°	1015.2	41.1
0°-40°	1523.5	61.7
0°-60°	2198.3	89.0
0°-90°	2469.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2469.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1358	1358	1358	1358	1358	
5°	1372	1362	1348	1350	1340	131
15°	1348	1310	1340	1320	1336	381
25°	1251	1157	1030	1101	1175	572
35°	942	860	755	779	797	588
45°	596	546	488	482	476	466
55°	398	356	289	257	249	359
65°	263	227	149	112	120	260
75°	147	124	60	46	44	156
85°	42	24	6	2	2	48
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°	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3
2.5°	1368.3	1364.3	1362.3	1368.3	1366.3	1370.2	1368.3	1366.3	1362.3	1364.3	1364.3
5°	1372.2	1366.3	1364.3	1368.3	1368.3	1372.2	1370.2	1366.3	1362.3	1364.3	1362.3
7.5°	1368.3	1364.3	1364.3	1366.3	1364.3	1368.3	1364.3	1360.3	1356.3	1358.3	1354.3
10°	1364.3	1358.3	1358.3	1358.3	1358.3	1362.3	1358.3	1352.3	1346.3	1346.3	1342.4
12.5°	1358.3	1352.3	1352.3	1354.3	1350.3	1354.3	1350.3	1340.4	1334.4	1332.4	1328.4
15°	1348.3	1342.4	1342.4	1342.4	1338.4	1340.4	1334.4	1324.4	1316.5	1316.5	1310.5
17.5°	1334.4	1328.4	1326.4	1326.4	1320.5	1322.4	1316.5	1306.5	1294.6	1290.6	1284.6
20°	1318.5	1310.5	1306.5	1306.5	1300.5	1302.5	1294.6	1282.6	1266.7	1260.7	1250.7
22.5°	1290.6	1286.6	1280.6	1278.6	1272.7	1270.7	1262.7	1246.8	1232.8	1222.9	1206.9
25°	1250.7	1248.8	1242.8	1240.8	1232.8	1228.8	1220.9	1202.9	1189.0	1173.1	1157.1
27.5°	1202.9	1195.0	1191.0	1185.0	1177.1	1175.1	1165.1	1149.2	1127.3	1117.3	1097.4
30°	1129.3	1125.3	1121.3	1115.3	1107.3	1103.4	1097.4	1079.5	1061.5	1043.6	1025.7
32.5°	1045.6	1037.6	1031.7	1033.7	1023.7	1019.7	1009.8	993.8	977.9	965.9	946.0
35°	942.0	940.1	938.1	934.1	926.1	924.1	916.2	904.2	886.3	872.3	860.4
37.5°	844.5	838.5	834.5	834.5	826.5	826.5	820.6	806.6	796.7	786.7	770.8
40°	752.8	742.9	742.9	742.9	734.9	736.9	732.9	719.0	709.0	697.1	687.1
42.5°	667.2	663.2	661.2	657.2	653.3	653.3	649.3	641.3	631.3	623.4	613.4
45°	595.5	593.5	591.5	589.5	585.5	583.5	581.6	569.6	563.6	555.7	545.7
47.5°	537.7	533.8	531.8	529.8	525.8	523.8	519.8	511.8	505.9	497.9	489.9
50°	484.0	482.0	480.0	480.0	476.0	474.0	470.0	464.1	454.1	450.1	440.2
52.5°	442.1	438.2	434.2	434.2	430.2	430.2	424.2	418.2	408.3	404.3	396.3
55°	398.3	396.3	394.3	394.3	390.4	388.4	386.4	378.4	370.4	364.5	356.5
57.5°	360.5	358.5	356.5	356.5	352.5	350.5	348.5	342.6	334.6	330.6	320.7
60°	324.6	324.6	322.6	320.7	318.7	316.7	314.7	308.7	302.7	296.8	288.8
62.5°	292.8	290.8	288.8	286.8	286.8	284.8	282.8	274.8	270.9	264.9	256.9
65°	262.9	258.9	258.9	256.9	256.9	254.9	252.9	245.0	241.0	235.0	227.0
67.5°	231.0	229.0	227.0	227.0	225.1	225.1	223.1	217.1	211.1	207.1	199.2
70°	201.2	201.2	199.2	199.2	197.2	195.2	195.2	191.2	185.2	179.2	171.3
72.5°	175.3	173.3	171.3	171.3	169.3	169.3	167.3	163.3	159.3	155.3	145.4
75°	147.4	145.4	145.4	145.4	143.4	143.4	141.4	137.4	133.4	129.5	123.5
77.5°	121.5	121.5	119.5	119.5	117.5	117.5	117.5	113.5	109.5	105.6	97.6
80°	95.6	95.6	95.6	93.6	91.6	91.6	91.6	87.6	83.6	79.7	73.7
82.5°	69.7	67.7	67.7	65.7	63.7	63.7	63.7	59.7	57.8	51.8	47.8
85°	41.8	39.8	39.8	37.8	35.8	35.8	35.8	33.9	29.9	27.9	23.9
87.5°	15.9	15.9	15.9	15.9	15.9	13.9	13.9	11.9	11.9	10.0	10.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3
2.5°	1364.3	1362.3	1362.3	1360.3	1362.3	1358.3	1358.3	1358.3	1358.3	1354.3	1354.3
5°	1360.3	1360.3	1358.3	1356.3	1358.3	1354.3	1356.3	1354.3	1354.3	1348.3	1348.3
7.5°	1352.3	1350.3	1346.3	1344.4	1346.3	1344.4	1344.4	1344.4	1348.3	1344.4	1344.4
10°	1338.4	1336.4	1332.4	1330.4	1330.4	1328.4	1332.4	1336.4	1344.4	1348.3	1356.3
12.5°	1324.4	1320.5	1318.5	1318.5	1320.5	1320.5	1328.4	1338.4	1358.3	1364.3	1372.2
15°	1306.5	1304.5	1304.5	1310.5	1318.5	1324.4	1340.4	1346.3	1348.3	1340.4	1336.4
17.5°	1282.6	1282.6	1284.6	1290.6	1296.6	1296.6	1298.5	1294.6	1290.6	1280.6	1268.7
20°	1242.8	1240.8	1236.8	1236.8	1236.8	1228.8	1232.8	1218.9	1208.9	1197.0	1179.0
22.5°	1193.0	1183.0	1169.1	1159.1	1153.2	1149.2	1139.2	1123.3	1111.3	1103.4	1095.4
25°	1139.2	1123.3	1103.4	1087.4	1077.5	1075.5	1061.5	1047.6	1039.6	1029.7	1025.7
27.5°	1077.5	1059.5	1035.6	1019.7	1011.7	1005.8	993.8	979.9	969.9	962.0	956.0
30°	1005.8	987.9	967.9	948.0	940.1	930.1	918.1	908.2	898.2	892.3	888.3
32.5°	926.1	908.2	888.3	874.3	864.4	856.4	846.4	836.5	828.5	824.5	820.6
35°	844.5	826.5	810.6	796.7	788.7	782.7	774.7	762.8	756.8	754.8	750.8
37.5°	756.8	744.9	730.9	719.0	713.0	705.0	701.1	691.1	691.1	683.1	683.1
40°	675.2	667.2	653.3	643.3	639.3	633.3	627.4	623.4	621.4	619.4	617.4
42.5°	603.5	591.5	583.5	575.6	569.6	565.6	565.6	559.6	557.7	551.7	549.7
45°	537.7	531.8	517.8	511.8	509.9	503.9	501.9	497.9	491.9	488.0	486.0
47.5°	480.0	474.0	466.0	458.1	454.1	450.1	446.1	440.2	436.2	430.2	428.2
50°	432.2	422.2	414.3	408.3	402.3	400.3	396.3	388.4	384.4	378.4	378.4
52.5°	388.4	380.4	370.4	364.5	358.5	354.5	348.5	342.6	336.6	334.6	328.6
55°	350.5	340.6	330.6	322.6	316.7	310.7	308.7	300.7	292.8	288.8	284.8
57.5°	314.7	304.7	292.8	282.8	278.8	274.8	268.9	260.9	254.9	249.0	245.0
60°	278.8	270.9	258.9	249.0	245.0	239.0	233.0	225.1	219.1	213.1	209.1
62.5°	249.0	237.0	227.0	217.1	211.1	207.1	199.2	193.2	185.2	179.2	173.3
65°	219.1	207.1	197.2	187.2	183.2	177.3	171.3	163.3	155.3	149.4	141.4
67.5°	189.2	179.2	169.3	159.3	155.3	151.4	143.4	135.4	127.5	121.5	113.5
70°	163.3	153.4	143.4	135.4	131.4	127.5	119.5	111.5	105.6	97.6	91.6
72.5°	139.4	131.4	121.5	113.5	109.5	105.6	97.6	91.6	83.6	79.7	73.7
75°	115.5	107.5	99.6	91.6	87.6	83.6	77.7	71.7	65.7	59.7	55.8
77.5°	91.6	83.6	75.7	69.7	65.7	63.7	57.8	51.8	45.8	41.8	35.8
80°	67.7	59.7	53.8	47.8	43.8	41.8	35.8	31.9	27.9	21.9	19.9
82.5°	41.8	35.8	31.9	27.9	25.9	23.9	19.9	15.9	13.9	11.9	10.0
85°	21.9	19.9	15.9	13.9	11.9	11.9	10.0	8.0	6.0	6.0	4.0
87.5°	8.0	6.0	6.0	4.0	4.0	4.0	4.0	2.0	2.0	2.0	2.0
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°	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3
2.5°	1350.3	1352.3	1354.3	1356.3	1354.3	1354.3	1358.3	1350.3	1356.3	1356.3	1348.3
5°	1346.3	1350.3	1348.3	1352.3	1348.3	1348.3	1350.3	1346.3	1350.3	1350.3	1344.4
7.5°	1342.4	1346.3	1346.3	1348.3	1346.3	1346.3	1348.3	1342.4	1346.3	1346.3	1340.4
10°	1360.3	1364.3	1362.3	1360.3	1354.3	1350.3	1352.3	1342.4	1346.3	1346.3	1340.4
12.5°	1366.3	1364.3	1356.3	1352.3	1348.3	1344.4	1346.3	1338.4	1342.4	1342.4	1338.4
15°	1326.4	1322.4	1316.5	1318.5	1314.5	1312.5	1316.5	1312.5	1320.5	1324.4	1320.5
17.5°	1258.7	1256.7	1252.7	1252.7	1252.7	1254.7	1260.7	1260.7	1272.7	1280.6	1284.6
20°	1171.1	1169.1	1171.1	1175.1	1177.1	1185.0	1199.0	1206.9	1222.9	1236.8	1246.8
22.5°	1091.4	1095.4	1101.4	1109.3	1111.3	1121.3	1139.2	1147.2	1167.1	1183.0	1193.0
25°	1023.7	1029.7	1033.7	1039.6	1041.6	1053.6	1069.5	1079.5	1101.4	1113.3	1125.3
27.5°	956.0	964.0	965.9	973.9	973.9	985.9	999.8	1009.8	1023.7	1035.6	1045.6
30°	890.3	892.3	898.2	900.2	904.2	916.2	924.1	930.1	946.0	952.0	958.0
32.5°	818.6	826.5	830.5	832.5	830.5	840.5	848.4	852.4	858.4	866.4	870.3
35°	750.8	754.8	756.8	760.8	762.8	764.8	768.8	770.8	778.7	780.7	782.7
37.5°	683.1	689.1	687.1	689.1	689.1	691.1	695.1	693.1	699.1	701.1	699.1
40°	615.4	615.4	619.4	617.4	619.4	617.4	621.4	621.4	621.4	623.4	621.4
42.5°	547.7	549.7	547.7	551.7	547.7	549.7	549.7	547.7	549.7	547.7	547.7
45°	486.0	486.0	486.0	486.0	482.0	482.0	486.0	484.0	482.0	480.0	478.0
47.5°	426.2	428.2	424.2	426.2	424.2	422.2	420.2	420.2	418.2	414.3	412.3
50°	376.4	372.4	370.4	372.4	370.4	368.5	366.5	362.5	360.5	356.5	354.5
52.5°	326.6	322.6	318.7	318.7	316.7	312.7	310.7	306.7	304.7	300.7	300.7
55°	282.8	278.8	274.8	272.9	268.9	264.9	262.9	258.9	256.9	252.9	249.0
57.5°	241.0	235.0	231.0	229.0	227.0	221.1	219.1	215.1	211.1	207.1	205.1
60°	203.1	197.2	191.2	189.2	187.2	181.2	179.2	173.3	171.3	167.3	165.3
62.5°	167.3	163.3	155.3	153.4	149.4	145.4	139.4	137.4	135.4	137.4	137.4
65°	135.4	129.5	123.5	121.5	117.5	113.5	111.5	109.5	111.5	111.5	113.5
67.5°	107.5	101.6	95.6	95.6	93.6	89.6	89.6	89.6	91.6	91.6	93.6
70°	85.6	81.7	77.7	75.7	75.7	73.7	75.7	75.7	77.7	77.7	77.7
72.5°	67.7	65.7	63.7	61.7	61.7	61.7	61.7	61.7	61.7	61.7	63.7
75°	51.8	49.8	47.8	47.8	45.8	45.8	45.8	45.8	45.8	45.8	43.8
77.5°	33.9	31.9	29.9	29.9	27.9	25.9	25.9	23.9	23.9	23.9	23.9
80°	17.9	15.9	13.9	11.9	11.9	10.0	10.0	10.0	10.0	8.0	8.0
82.5°	8.0	6.0	6.0	6.0	6.0	4.0	4.0	4.0	4.0	4.0	4.0
85°	4.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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: P251724

CATALOG NUMBER: LD4B40D010 EU4B30509730 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3	1358.3
2.5°	1352.3	1348.3	1352.3	1354.3	1350.3	1348.3	1352.3	1344.4
5°	1350.3	1344.4	1346.3	1348.3	1344.4	1342.4	1346.3	1340.4
7.5°	1346.3	1344.4	1346.3	1348.3	1342.4	1342.4	1346.3	1340.4
10°	1346.3	1342.4	1344.4	1348.3	1344.4	1344.4	1348.3	1340.4
12.5°	1344.4	1338.4	1344.4	1346.3	1342.4	1342.4	1346.3	1338.4
15°	1330.4	1330.4	1332.4	1336.4	1334.4	1336.4	1342.4	1336.4
17.5°	1300.5	1304.5	1312.5	1318.5	1322.4	1326.4	1332.4	1328.4
20°	1264.7	1270.7	1280.6	1286.6	1294.6	1296.6	1306.5	1298.5
22.5°	1208.9	1220.9	1228.8	1234.8	1240.8	1246.8	1254.7	1252.7
25°	1141.2	1149.2	1155.1	1161.1	1169.1	1173.1	1177.1	1175.1
27.5°	1059.5	1063.5	1071.5	1075.5	1079.5	1083.4	1091.4	1081.5
30°	969.9	971.9	975.9	981.9	981.9	985.9	989.8	987.9
32.5°	878.3	878.3	882.3	886.3	884.3	886.3	894.2	884.3
35°	788.7	786.7	792.7	794.7	794.7	792.7	798.6	796.7
37.5°	701.1	703.0	705.0	707.0	703.0	707.0	707.0	703.0
40°	621.4	619.4	623.4	625.4	623.4	625.4	625.4	617.4
42.5°	549.7	545.7	547.7	549.7	547.7	549.7	547.7	543.7
45°	480.0	478.0	478.0	480.0	476.0	476.0	476.0	476.0
47.5°	414.3	412.3	414.3	414.3	410.3	410.3	412.3	410.3
50°	354.5	352.5	352.5	352.5	350.5	350.5	352.5	352.5
52.5°	300.7	296.8	296.8	296.8	296.8	296.8	298.7	294.8
55°	247.0	247.0	247.0	247.0	249.0	249.0	249.0	249.0
57.5°	203.1	205.1	205.1	207.1	205.1	207.1	207.1	205.1
60°	169.3	167.3	169.3	169.3	171.3	171.3	171.3	171.3
62.5°	139.4	139.4	139.4	141.4	141.4	141.4	143.4	141.4
65°	115.5	115.5	117.5	117.5	117.5	119.5	119.5	119.5
67.5°	95.6	95.6	95.6	95.6	97.6	97.6	99.6	97.6
70°	79.7	79.7	79.7	79.7	79.7	81.7	81.7	81.7
72.5°	63.7	63.7	63.7	63.7	65.7	65.7	65.7	65.7
75°	43.8	43.8	43.8	45.8	43.8	43.8	43.8	43.8
77.5°	21.9	21.9	21.9	21.9	21.9	19.9	19.9	19.9
80°	8.0	8.0	8.0	8.0	8.0	8.0	6.0	8.0
82.5°	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.0
85°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
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



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













(END OF REPORT)