

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: P251706

Luminaire Tested: **LD4B30D010 EU4B30509030 4LBLWW1LI**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P251706
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: LD4B30D010 EU4B30509030 4LBLWW1LI
Description: PORTFOLIO 4 INCH LENS WALLWASH RECESSED DOWNLIGHT, WITH SPECULAR CLEAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2016.0 lumens
Efficiency: N/A
Efficacy: 72.0 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

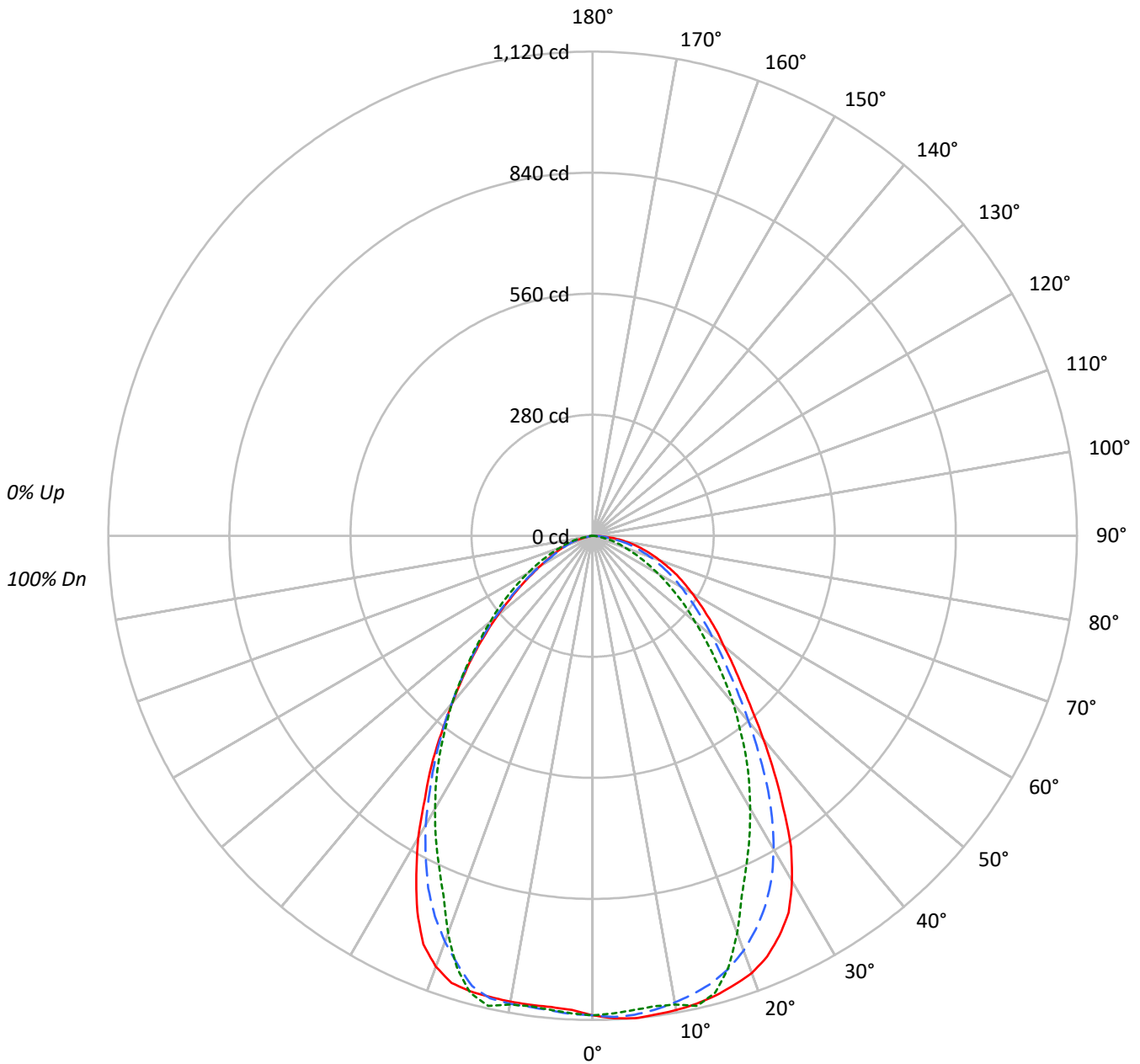
Input Watts (W): 28
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P251706

CATALOG NUMBER: LD4B30D010 EU4B30509030 4LBLWW1LI

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									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	111	107	103	100	108	105	102	99	101	98	96	97	95	93	93	91	90	88																			
2	103	96	90	85	100	94	89	84	90	86	82	87	84	80	84	81	79	77																			
3	95	86	79	74	93	84	78	73	82	76	72	79	74	70	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	67	62	70	65	62	60																			
5	82	71	63	57	80	70	62	57	68	61	56	66	60	56	64	59	55	53																			
6	76	65	57	51	75	64	56	51	62	55	50	60	54	50	59	54	50	48																			
7	71	59	51	46	70	59	51	46	57	50	46	56	50	45	54	49	45	43																			
8	67	55	47	42	65	54	47	42	53	46	41	52	46	41	51	45	41	39																			
9	63	51	43	38	62	50	43	38	49	43	38	48	42	38	47	42	38	36																			
10	59	47	40	35	58	47	40	35	46	39	35	45	39	35	44	39	35	33																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	108091	108091	108091
5°	109619	107701	107066
10°	110243	108947	108303
15°	111076	110421	110098
20°	111657	101369	109967
25°	109824	90414	103178
30°	103768	81982	90771
35°	91515	73324	77393
40°	78204	64349	64133
45°	67011	54910	53573
50°	59919	46850	43636
55°	55256	40065	34543
60°	51672	33915	27269
65°	49511	28134	22507
70°	46789	22710	19006
75°	45299	18376	13480
80°	43833	10046	3648
85°	38243	5479	1789



TEST NUMBER: P251706

CATALOG NUMBER: LD4B30D010 EU4B30509030 4LBLWW1LI

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.4	5.2
10°-20°	303.1	15.0
20°-30°	420.5	20.9
30°-40°	415.0	20.6
40°-50°	325.5	16.1
50°-60°	225.5	11.2
60°-70°	138.2	6.9
70°-80°	69.0	3.4
80°-90°	13.8	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°	829.0	41.1
0°-40°	1244.0	61.7
0°-60°	1795.0	89.0
0°-90°	2016.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2016.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1109	1109	1109	1109	1109	
5°	1120	1112	1101	1103	1094	107
15°	1101	1070	1094	1078	1091	311
25°	1021	945	841	899	960	467
35°	769	702	616	636	650	480
45°	486	446	398	394	389	380
55°	325	291	236	210	203	293
65°	215	185	122	91	98	212
75°	120	101	49	37	36	128
85°	34	20	5	2	2	39
90°	0	0	0	0	0	



TEST NUMBER: P251706

CATALOG NUMBER: LD4B30D010 EU4B30509030 4LBLWW1LI

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1
2.5°	1117.2	1114.0	1112.3	1117.2	1115.6	1118.8	1117.2	1115.6	1112.3	1114.0	1114.0
5°	1120.5	1115.6	1114.0	1117.2	1117.2	1120.5	1118.8	1115.6	1112.3	1114.0	1112.3
7.5°	1117.2	1114.0	1114.0	1115.6	1114.0	1117.2	1114.0	1110.7	1107.5	1109.1	1105.8
10°	1114.0	1109.1	1109.1	1109.1	1109.1	1112.3	1109.1	1104.2	1099.3	1099.3	1096.1
12.5°	1109.1	1104.2	1104.2	1105.8	1102.6	1105.8	1102.6	1094.4	1089.6	1087.9	1084.7
15°	1100.9	1096.1	1096.1	1096.1	1092.8	1094.4	1089.6	1081.4	1074.9	1074.9	1070.1
17.5°	1089.6	1084.7	1083.1	1083.1	1078.2	1079.8	1074.9	1066.8	1057.0	1053.8	1048.9
20°	1076.6	1070.1	1066.8	1066.8	1061.9	1063.5	1057.0	1047.3	1034.3	1029.4	1021.3
22.5°	1053.8	1050.5	1045.7	1044.0	1039.2	1037.5	1031.0	1018.0	1006.6	998.5	985.5
25°	1021.3	1019.6	1014.8	1013.1	1006.6	1003.4	996.9	982.2	970.9	957.8	944.8
27.5°	982.2	975.7	972.5	967.6	961.1	959.5	951.3	938.3	920.4	912.3	896.0
30°	922.1	918.8	915.6	910.7	904.2	900.9	896.0	881.4	866.8	852.1	837.5
32.5°	853.8	847.3	842.4	844.0	835.9	832.6	824.5	811.5	798.5	788.7	772.5
35°	769.2	767.6	765.9	762.7	756.2	754.6	748.1	738.3	723.7	712.3	702.5
37.5°	689.5	684.6	681.4	681.4	674.9	674.9	670.0	658.6	650.5	642.4	629.3
40°	614.7	606.6	606.6	606.6	600.1	601.7	598.4	587.1	578.9	569.2	561.0
42.5°	544.8	541.5	539.9	536.7	533.4	533.4	530.1	523.6	515.5	509.0	500.9
45°	486.2	484.6	483.0	481.4	478.1	476.5	474.9	465.1	460.2	453.7	445.6
47.5°	439.1	435.8	434.2	432.6	429.3	427.7	424.4	417.9	413.1	406.6	400.0
50°	395.2	393.5	391.9	391.9	388.7	387.0	383.8	378.9	370.8	367.5	359.4
52.5°	361.0	357.8	354.5	354.5	351.3	351.3	346.4	341.5	333.4	330.1	323.6
55°	325.2	323.6	322.0	322.0	318.7	317.1	315.5	309.0	302.5	297.6	291.1
57.5°	294.3	292.7	291.1	291.1	287.8	286.2	284.6	279.7	273.2	270.0	261.8
60°	265.1	265.1	263.4	261.8	260.2	258.6	256.9	252.1	247.2	242.3	235.8
62.5°	239.1	237.4	235.8	234.2	234.2	232.5	230.9	224.4	221.2	216.3	209.8
65°	214.7	211.4	211.4	209.8	209.8	208.2	206.5	200.0	196.8	191.9	185.4
67.5°	188.6	187.0	185.4	185.4	183.8	183.8	182.1	177.3	172.4	169.1	162.6
70°	164.2	164.2	162.6	162.6	161.0	159.4	159.4	156.1	151.2	146.4	139.9
72.5°	143.1	141.5	139.9	139.9	138.2	138.2	136.6	133.3	130.1	126.8	118.7
75°	120.3	118.7	118.7	118.7	117.1	117.1	115.5	112.2	109.0	105.7	100.8
77.5°	99.2	99.2	97.6	97.6	95.9	95.9	95.9	92.7	89.4	86.2	79.7
80°	78.1	78.1	78.1	76.4	74.8	74.8	74.8	71.6	68.3	65.0	60.2
82.5°	56.9	55.3	55.3	53.7	52.0	52.0	52.0	48.8	47.2	42.3	39.0
85°	34.2	32.5	32.5	30.9	29.3	29.3	29.3	27.6	24.4	22.8	19.5
87.5°	13.0	13.0	13.0	13.0	13.0	11.4	11.4	9.8	9.8	8.1	8.1
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: P251706

CATALOG NUMBER: LD4B30D010 EU4B30509030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1
2.5°	1114.0	1112.3	1112.3	1110.7	1112.3	1109.1	1109.1	1109.1	1109.1	1105.8	1105.8
5°	1110.7	1110.7	1109.1	1107.5	1109.1	1105.8	1107.5	1105.8	1105.8	1100.9	1100.9
7.5°	1104.2	1102.6	1099.3	1097.7	1099.3	1097.7	1097.7	1097.7	1100.9	1097.7	1097.7
10°	1092.8	1091.2	1087.9	1086.3	1086.3	1084.7	1087.9	1091.2	1097.7	1100.9	1107.5
12.5°	1081.4	1078.2	1076.6	1076.6	1078.2	1078.2	1084.7	1092.8	1109.1	1114.0	1120.5
15°	1066.8	1065.2	1065.2	1070.1	1076.6	1081.4	1094.4	1099.3	1100.9	1094.4	1091.2
17.5°	1047.3	1047.3	1048.9	1053.8	1058.7	1058.7	1060.3	1057.0	1053.8	1045.7	1035.9
20°	1014.8	1013.1	1009.9	1009.9	1009.9	1003.4	1006.6	995.2	987.1	977.4	962.7
22.5°	974.1	966.0	954.6	946.5	941.6	938.3	930.2	917.2	907.4	900.9	894.4
25°	930.2	917.2	900.9	887.9	879.8	878.2	866.8	855.4	848.9	840.8	837.5
27.5°	879.8	865.1	845.6	832.6	826.1	821.2	811.5	800.1	792.0	785.5	780.6
30°	821.2	806.6	790.3	774.1	767.6	759.4	749.7	741.6	733.4	728.5	725.3
32.5°	756.2	741.6	725.3	713.9	705.8	699.3	691.1	683.0	676.5	673.3	670.0
35°	689.5	674.9	661.9	650.5	644.0	639.1	632.6	622.8	618.0	616.3	613.1
37.5°	618.0	608.2	596.8	587.1	582.2	575.7	572.4	564.3	564.3	557.8	557.8
40°	551.3	544.8	533.4	525.3	522.0	517.1	512.3	509.0	507.4	505.8	504.1
42.5°	492.7	483.0	476.5	470.0	465.1	461.8	461.8	457.0	455.3	450.5	448.8
45°	439.1	434.2	422.8	417.9	416.3	411.4	409.8	406.6	401.7	398.4	396.8
47.5°	391.9	387.0	380.5	374.0	370.8	367.5	364.3	359.4	356.1	351.3	349.6
50°	352.9	344.8	338.3	333.4	328.5	326.9	323.6	317.1	313.9	309.0	309.0
52.5°	317.1	310.6	302.5	297.6	292.7	289.5	284.6	279.7	274.8	273.2	268.3
55°	286.2	278.1	270.0	263.4	258.6	253.7	252.1	245.6	239.1	235.8	232.5
57.5°	256.9	248.8	239.1	230.9	227.7	224.4	219.5	213.0	208.2	203.3	200.0
60°	227.7	221.2	211.4	203.3	200.0	195.1	190.3	183.8	178.9	174.0	170.8
62.5°	203.3	193.5	185.4	177.3	172.4	169.1	162.6	157.7	151.2	146.4	141.5
65°	178.9	169.1	161.0	152.9	149.6	144.7	139.9	133.3	126.8	122.0	115.5
67.5°	154.5	146.4	138.2	130.1	126.8	123.6	117.1	110.6	104.1	99.2	92.7
70°	133.3	125.2	117.1	110.6	107.3	104.1	97.6	91.1	86.2	79.7	74.8
72.5°	113.8	107.3	99.2	92.7	89.4	86.2	79.7	74.8	68.3	65.0	60.2
75°	94.3	87.8	81.3	74.8	71.6	68.3	63.4	58.5	53.7	48.8	45.5
77.5°	74.8	68.3	61.8	56.9	53.7	52.0	47.2	42.3	37.4	34.2	29.3
80°	55.3	48.8	43.9	39.0	35.8	34.2	29.3	26.0	22.8	17.9	16.3
82.5°	34.2	29.3	26.0	22.8	21.1	19.5	16.3	13.0	11.4	9.8	8.1
85°	17.9	16.3	13.0	11.4	9.8	9.8	8.1	6.5	4.9	4.9	3.3
87.5°	6.5	4.9	4.9	3.3	3.3	3.3	3.3	1.6	1.6	1.6	1.6
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: P251706

CATALOG NUMBER: LD4B30D010 EU4B30509030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1
2.5°	1102.6	1104.2	1105.8	1107.5	1105.8	1105.8	1109.1	1102.6	1107.5	1107.5	1100.9
5°	1099.3	1102.6	1100.9	1104.2	1100.9	1100.9	1102.6	1099.3	1102.6	1102.6	1097.7
7.5°	1096.1	1099.3	1099.3	1100.9	1099.3	1099.3	1100.9	1096.1	1099.3	1099.3	1094.4
10°	1110.7	1114.0	1112.3	1110.7	1105.8	1102.6	1104.2	1096.1	1099.3	1099.3	1094.4
12.5°	1115.6	1114.0	1107.5	1104.2	1100.9	1097.7	1099.3	1092.8	1096.1	1096.1	1092.8
15°	1083.1	1079.8	1074.9	1076.6	1073.3	1071.7	1074.9	1071.7	1078.2	1081.4	1078.2
17.5°	1027.8	1026.1	1022.9	1022.9	1022.9	1024.5	1029.4	1029.4	1039.2	1045.7	1048.9
20°	956.2	954.6	956.2	959.5	961.1	967.6	979.0	985.5	998.5	1009.9	1018.0
22.5°	891.2	894.4	899.3	905.8	907.4	915.6	930.2	936.7	953.0	966.0	974.1
25°	835.9	840.8	844.0	848.9	850.5	860.3	873.3	881.4	899.3	909.1	918.8
27.5°	780.6	787.1	788.7	795.2	795.2	805.0	816.4	824.5	835.9	845.6	853.8
30°	726.9	728.5	733.4	735.1	738.3	748.1	754.6	759.4	772.5	777.3	782.2
32.5°	668.4	674.9	678.1	679.8	678.1	686.3	692.8	696.0	700.9	707.4	710.7
35°	613.1	616.3	618.0	621.2	622.8	624.5	627.7	629.3	635.9	637.5	639.1
37.5°	557.8	562.7	561.0	562.7	562.7	564.3	567.6	565.9	570.8	572.4	570.8
40°	502.5	502.5	505.8	504.1	505.8	504.1	507.4	507.4	507.4	509.0	507.4
42.5°	447.2	448.8	447.2	450.5	447.2	448.8	448.8	447.2	448.8	447.2	447.2
45°	396.8	396.8	396.8	396.8	393.5	393.5	396.8	395.2	393.5	391.9	390.3
47.5°	348.0	349.6	346.4	348.0	346.4	344.8	343.1	343.1	341.5	338.3	336.6
50°	307.4	304.1	302.5	304.1	302.5	300.9	299.2	296.0	294.3	291.1	289.5
52.5°	266.7	263.4	260.2	260.2	258.6	255.3	253.7	250.4	248.8	245.6	245.6
55°	230.9	227.7	224.4	222.8	219.5	216.3	214.7	211.4	209.8	206.5	203.3
57.5°	196.8	191.9	188.6	187.0	185.4	180.5	178.9	175.6	172.4	169.1	167.5
60°	165.9	161.0	156.1	154.5	152.9	148.0	146.4	141.5	139.9	136.6	135.0
62.5°	136.6	133.3	126.8	125.2	122.0	118.7	113.8	112.2	110.6	112.2	112.2
65°	110.6	105.7	100.8	99.2	95.9	92.7	91.1	89.4	91.1	91.1	92.7
67.5°	87.8	82.9	78.1	78.1	76.4	73.2	73.2	73.2	74.8	74.8	76.4
70°	69.9	66.7	63.4	61.8	61.8	60.2	61.8	61.8	63.4	63.4	63.4
72.5°	55.3	53.7	52.0	50.4	50.4	50.4	50.4	50.4	50.4	50.4	52.0
75°	42.3	40.7	39.0	39.0	37.4	37.4	37.4	37.4	37.4	37.4	35.8
77.5°	27.6	26.0	24.4	24.4	22.8	21.1	21.1	19.5	19.5	19.5	19.5
80°	14.6	13.0	11.4	9.8	9.8	8.1	8.1	8.1	8.1	6.5	6.5
82.5°	6.5	4.9	4.9	4.9	4.9	3.3	3.3	3.3	3.3	3.3	3.3
85°	3.3	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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: P251706

CATALOG NUMBER: LD4B30D010 EU4B30509030 4LBLWW1LI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1	1109.1
2.5°	1104.2	1100.9	1104.2	1105.8	1102.6	1100.9	1104.2	1097.7
5°	1102.6	1097.7	1099.3	1100.9	1097.7	1096.1	1099.3	1094.4
7.5°	1099.3	1097.7	1099.3	1100.9	1096.1	1096.1	1099.3	1094.4
10°	1099.3	1096.1	1097.7	1100.9	1097.7	1097.7	1100.9	1094.4
12.5°	1097.7	1092.8	1097.7	1099.3	1096.1	1096.1	1099.3	1092.8
15°	1086.3	1086.3	1087.9	1091.2	1089.6	1091.2	1096.1	1091.2
17.5°	1061.9	1065.2	1071.7	1076.6	1079.8	1083.1	1087.9	1084.7
20°	1032.6	1037.5	1045.7	1050.5	1057.0	1058.7	1066.8	1060.3
22.5°	987.1	996.9	1003.4	1008.3	1013.1	1018.0	1024.5	1022.9
25°	931.8	938.3	943.2	948.1	954.6	957.8	961.1	959.5
27.5°	865.1	868.4	874.9	878.2	881.4	884.7	891.2	883.0
30°	792.0	793.6	796.8	801.7	801.7	805.0	808.2	806.6
32.5°	717.2	717.2	720.4	723.7	722.0	723.7	730.2	722.0
35°	644.0	642.4	647.2	648.9	648.9	647.2	652.1	650.5
37.5°	572.4	574.1	575.7	577.3	574.1	577.3	577.3	574.1
40°	507.4	505.8	509.0	510.6	509.0	510.6	510.6	504.1
42.5°	448.8	445.6	447.2	448.8	447.2	448.8	447.2	444.0
45°	391.9	390.3	390.3	391.9	388.7	388.7	388.7	388.7
47.5°	338.3	336.6	338.3	338.3	335.0	335.0	336.6	335.0
50°	289.5	287.8	287.8	287.8	286.2	286.2	287.8	287.8
52.5°	245.6	242.3	242.3	242.3	242.3	242.3	243.9	240.7
55°	201.7	201.7	201.7	201.7	203.3	203.3	203.3	203.3
57.5°	165.9	167.5	167.5	169.1	167.5	169.1	169.1	167.5
60°	138.2	136.6	138.2	138.2	139.9	139.9	139.9	139.9
62.5°	113.8	113.8	113.8	115.5	115.5	115.5	117.1	115.5
65°	94.3	94.3	95.9	95.9	95.9	97.6	97.6	97.6
67.5°	78.1	78.1	78.1	78.1	79.7	79.7	81.3	79.7
70°	65.0	65.0	65.0	65.0	65.0	66.7	66.7	66.7
72.5°	52.0	52.0	52.0	52.0	53.7	53.7	53.7	53.7
75°	35.8	35.8	35.8	37.4	35.8	35.8	35.8	35.8
77.5°	17.9	17.9	17.9	17.9	17.9	16.3	16.3	16.3
80°	6.5	6.5	6.5	6.5	6.5	6.5	4.9	6.5
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	1.6
85°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
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)