

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: P251626

Luminaire Tested: **LD4B30D010 EU4B30509024 4LBSW1H**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P251626  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-1712-453-13)  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: io LED  
Catalog Number: LD4B30D010 EU4B30509024 4LBSW1H  
Description: PORTFOLIO 4 INCH SINGLE WALLWASH RECESSED DOWNLIGHT, WITH HAZE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2400K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1871.0 lumens  
Efficiency: N/A  
Efficacy: 66.8 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.17 / 1.15  
Luminous Opening: Circular (Dia: 0.38' x H: 0')  
CIE Type: Direct

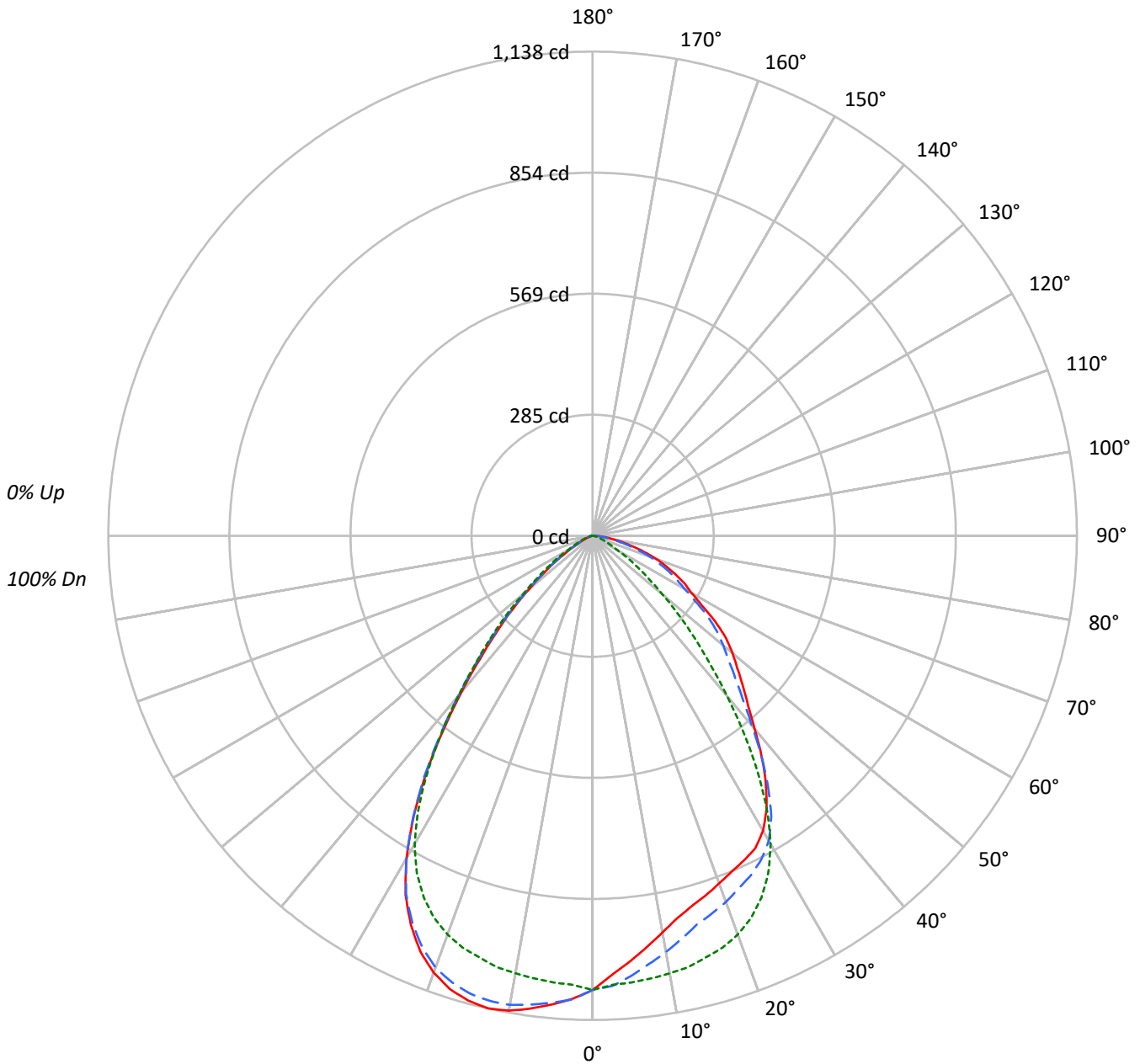
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### 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	108	104	101	109	106	103	100	101	99	97	98	96	94	94	93	91	89																			
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79																			
3	96	88	81	76	94	86	80	75	83	78	74	81	76	73	78	75	72	70																			
4	90	80	72	67	88	78	72	66	76	70	66	74	69	65	72	68	64	62																			
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56																			
6	78	67	59	53	76	66	59	53	64	58	53	62	57	52	61	56	52	50																			
7	73	61	54	48	71	61	53	48	59	53	48	58	52	48	56	51	47	46																			
8	68	57	49	44	67	56	49	44	55	48	44	54	48	43	52	47	43	42																			
9	64	52	45	40	63	52	45	40	51	44	40	50	44	40	49	44	40	38																			
10	61	49	42	37	59	48	42	37	47	41	37	47	41	37	46	40	37	35																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	104027	104027	104027
5°	98231	103074	108191
10°	93647	103316	112163
15°	90897	103529	114083
20°	90157	103422	113265
25°	90521	100877	108565
30°	90084	94113	98446
35°	84448	80355	81164
40°	75252	62301	60901
45°	68817	46448	43608
50°	65074	32537	29399
55°	59826	21970	18470
60°	52277	12864	10194
65°	49488	8256	5719
70°	45079	5870	3533
75°	37278	4142	2598
80°	29353	2301	1571
85°	26166	1565	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.8	5.4
10°-20°	289.3	15.5
20°-30°	428.9	22.9
30°-40°	429.5	23.0
40°-50°	300.2	16.0
50°-60°	178.6	9.5
60°-70°	93.2	5.0
70°-80°	41.4	2.2
80°-90°	9.0	0.5
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°	819.1	43.8
0°-40°	1248.5	66.7
0°-60°	1727.3	92.3
0°-90°	1871.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1871.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1067	1067	1067	1067	1067	
5°	1004	1038	1054	1102	1106	94
15°	901	946	1026	1114	1131	255
25°	842	880	938	1003	1010	388
35°	710	718	675	688	682	440
45°	499	474	337	326	316	388
55°	352	330	129	113	109	312
65°	215	197	36	26	25	212
75°	99	87	11	7	7	107
85°	23	18	1	1	0	26
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°	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4
2.5°	1033.0	1045.4	1033.0	1037.1	1053.6	1038.5	1046.7	1046.7	1042.6	1052.3	1059.1
5°	1004.1	1016.5	1004.1	1009.6	1027.5	1012.4	1022.0	1019.2	1020.6	1028.9	1038.5
7.5°	975.2	984.9	973.8	980.7	997.2	984.9	993.1	993.1	994.5	1006.9	1015.1
10°	946.3	954.6	946.3	951.8	969.7	958.7	964.2	965.6	969.7	980.7	993.1
12.5°	920.2	927.1	918.8	927.1	942.2	931.2	938.1	939.5	943.6	956.0	969.7
15°	900.9	907.8	899.6	906.4	920.2	912.0	917.5	920.2	923.0	934.0	946.3
17.5°	885.8	891.3	884.4	892.7	903.7	894.1	902.3	902.3	906.4	917.5	931.2
20°	869.3	874.8	869.3	876.2	888.6	880.3	887.2	887.2	891.3	903.7	916.1
22.5°	854.2	856.9	854.2	859.7	872.1	865.2	869.3	870.7	874.8	885.8	896.8
25°	841.8	847.3	844.6	850.1	858.3	851.4	855.6	856.9	861.1	870.7	880.3
27.5°	828.0	830.8	828.0	834.9	841.8	836.3	840.4	839.0	841.8	850.1	858.3
30°	800.5	803.3	803.3	807.4	812.9	810.2	814.3	810.2	812.9	819.8	828.0
32.5°	760.6	762.0	763.4	767.5	771.7	767.5	770.3	770.3	770.3	775.8	781.3
35°	709.8	712.5	711.1	713.9	718.0	716.6	716.6	715.3	712.5	715.3	718.0
37.5°	652.0	647.9	647.9	652.0	654.7	649.2	652.0	649.2	649.2	650.6	650.6
40°	591.5	587.3	591.5	592.8	594.2	591.5	590.1	587.3	583.2	584.6	581.8
42.5°	540.6	537.8	539.2	539.2	540.6	537.8	539.2	533.7	529.6	526.8	522.7
45°	499.3	495.2	499.3	496.6	496.6	495.2	493.8	491.1	485.5	481.4	474.5
47.5°	460.8	460.8	462.2	462.2	462.2	459.4	459.4	453.9	448.4	442.9	433.3
50°	429.2	426.4	431.9	431.9	427.8	426.4	427.8	420.9	416.8	409.9	400.3
52.5°	394.8	394.8	396.1	396.1	394.8	392.0	393.4	387.9	383.8	376.9	367.3
55°	352.1	349.4	353.5	353.5	352.1	350.8	352.1	348.0	343.9	338.4	330.1
57.5°	304.0	302.6	305.4	306.7	304.0	304.0	305.4	301.2	299.9	294.4	286.1
60°	268.2	266.8	269.6	271.0	268.2	268.2	268.2	262.7	260.0	254.5	249.0
62.5°	243.5	242.1	244.8	243.5	242.1	240.7	242.1	236.6	233.8	228.3	222.8
65°	214.6	216.0	217.3	217.3	216.0	214.6	214.6	211.8	209.1	203.6	196.7
67.5°	187.1	187.1	188.4	189.8	188.4	188.4	188.4	184.3	181.6	177.4	169.2
70°	158.2	156.8	160.9	160.9	158.2	159.6	158.2	156.8	154.1	148.6	141.7
72.5°	127.9	127.9	129.3	129.3	127.9	127.9	127.9	126.5	122.4	119.7	112.8
75°	99.0	99.0	100.4	101.8	99.0	99.0	100.4	97.7	94.9	90.8	86.7
77.5°	74.3	72.9	74.3	74.3	72.9	72.9	72.9	71.5	70.2	66.0	61.9
80°	52.3	50.9	52.3	52.3	52.3	50.9	50.9	49.5	49.5	46.8	42.6
82.5°	35.8	34.4	35.8	35.8	35.8	34.4	34.4	34.4	33.0	31.6	28.9
85°	23.4	22.0	22.0	23.4	22.0	22.0	22.0	22.0	20.6	19.3	17.9
87.5°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	9.6	9.6	9.6	8.3
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°	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4
2.5°	1053.6	1050.9	1059.1	1056.4	1057.8	1050.9	1061.9	1056.4	1063.3	1056.4	1070.1
5°	1035.7	1033.0	1045.4	1044.0	1045.4	1039.9	1052.3	1050.9	1059.1	1053.6	1068.8
7.5°	1016.5	1013.7	1027.5	1028.9	1031.6	1026.1	1042.6	1042.6	1050.9	1049.5	1066.0
10°	994.5	995.9	1009.6	1012.4	1017.9	1015.1	1030.2	1034.4	1045.4	1044.0	1064.6
12.5°	973.8	973.8	991.7	997.2	1001.4	1000.0	1017.9	1023.4	1035.7	1038.5	1057.8
15°	953.2	954.6	971.1	979.4	984.9	983.5	1002.7	1009.6	1024.7	1026.1	1049.5
17.5°	936.7	935.3	953.2	960.1	968.3	967.0	987.6	995.9	1011.0	1015.1	1037.1
20°	923.0	921.6	938.1	946.3	951.8	950.5	971.1	980.7	994.5	997.2	1019.2
22.5°	906.4	903.7	920.2	927.1	932.6	931.2	949.1	956.0	969.7	972.5	993.1
25°	887.2	884.4	899.6	903.7	907.8	905.1	920.2	924.3	935.3	938.1	958.7
27.5°	865.2	858.3	870.7	870.7	873.4	869.3	880.3	884.4	894.1	894.1	913.3
30°	830.8	821.2	828.0	826.7	828.0	822.5	829.4	830.8	837.7	836.3	850.1
32.5°	782.7	768.9	773.0	768.9	764.8	756.5	764.8	762.0	767.5	762.0	774.4
35°	716.6	702.9	701.5	696.0	691.9	685.0	685.0	678.1	679.5	675.4	683.6
37.5°	645.1	627.2	624.5	613.5	606.6	598.3	598.3	592.8	586.0	583.2	590.1
40°	575.0	555.7	548.8	530.9	524.1	515.8	510.3	503.4	500.7	489.7	495.2
42.5°	514.4	493.8	478.7	459.4	452.5	440.2	431.9	423.7	419.5	407.1	412.6
45°	463.5	438.8	422.3	397.5	387.9	374.1	361.8	352.1	342.5	337.0	334.2
47.5°	420.9	394.8	372.8	345.2	330.1	317.7	301.2	291.6	279.2	272.3	268.2
50°	385.1	356.3	331.5	299.9	284.7	271.0	251.7	236.6	225.6	214.6	211.8
52.5°	353.5	323.2	295.7	260.0	242.1	225.6	204.9	188.4	178.8	166.4	165.1
55°	316.4	290.2	260.0	222.8	204.9	188.4	166.4	149.9	137.5	129.3	126.5
57.5°	276.5	251.7	222.8	185.7	167.8	149.9	129.3	114.2	103.2	96.3	94.9
60°	239.3	216.0	188.4	151.3	133.4	118.3	96.3	81.2	71.5	66.0	63.3
62.5°	211.8	189.8	163.7	129.3	112.8	97.7	77.0	63.3	55.0	49.5	46.8
65°	185.7	163.7	140.3	108.7	94.9	81.2	61.9	49.5	41.3	35.8	33.0
67.5°	158.2	138.9	116.9	90.8	77.0	66.0	49.5	38.5	31.6	27.5	24.8
70°	130.7	112.8	94.9	72.9	63.3	52.3	38.5	30.3	23.4	20.6	17.9
72.5°	103.2	89.4	74.3	56.4	48.1	41.3	30.3	22.0	17.9	15.1	12.4
75°	77.0	67.4	55.0	42.6	35.8	30.3	22.0	16.5	13.8	11.0	9.6
77.5°	55.0	46.8	38.5	28.9	26.1	22.0	15.1	12.4	9.6	6.9	5.5
80°	37.1	33.0	26.1	20.6	16.5	15.1	11.0	8.3	5.5	4.1	4.1
82.5°	24.8	20.6	16.5	12.4	11.0	9.6	6.9	5.5	4.1	2.8	2.8
85°	15.1	12.4	9.6	6.9	6.9	5.5	4.1	2.8	1.4	1.4	1.4
87.5°	6.9	5.5	4.1	2.8	2.8	1.4	1.4	1.4	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°	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4
2.5°	1081.1	1072.9	1067.4	1074.3	1077.0	1072.9	1077.0	1083.9	1090.8	1092.1	1072.9
5°	1082.5	1074.3	1071.5	1079.8	1081.1	1079.8	1083.9	1093.5	1101.8	1104.5	1085.3
7.5°	1082.5	1077.0	1075.6	1085.3	1086.6	1085.3	1092.1	1103.1	1111.4	1116.9	1097.6
10°	1079.8	1077.0	1078.4	1086.6	1089.4	1089.4	1099.0	1111.4	1119.7	1125.2	1105.9
12.5°	1075.6	1075.6	1075.6	1085.3	1088.0	1089.4	1097.6	1114.1	1119.7	1127.9	1108.6
15°	1068.8	1068.8	1068.8	1078.4	1082.5	1082.5	1092.1	1107.3	1114.1	1122.4	1103.1
17.5°	1056.4	1056.4	1057.8	1066.0	1070.1	1070.1	1079.8	1096.3	1100.4	1110.0	1090.8
20°	1038.5	1038.5	1039.9	1048.1	1052.3	1049.5	1061.9	1075.6	1079.8	1088.0	1068.8
22.5°	1012.4	1012.4	1012.4	1020.6	1023.4	1022.0	1034.4	1046.7	1046.7	1057.8	1037.1
25°	973.8	976.6	973.8	982.1	984.9	983.5	994.5	1005.5	1002.7	1015.1	994.5
27.5°	927.1	925.7	925.7	932.6	932.6	931.2	939.5	951.8	949.1	957.3	938.1
30°	862.4	866.6	859.7	869.3	865.2	862.4	867.9	878.9	874.8	881.7	866.6
32.5°	788.2	782.7	782.7	782.7	785.4	778.5	784.0	789.5	785.4	792.3	775.8
35°	690.5	691.9	687.7	689.1	690.5	682.2	687.7	693.2	687.7	691.9	676.7
37.5°	592.8	594.2	584.6	590.1	584.6	581.8	587.3	590.1	584.6	588.7	572.2
40°	495.2	492.4	491.1	491.1	492.4	485.5	489.7	493.8	489.7	492.4	477.3
42.5°	409.9	408.5	405.8	407.1	403.0	401.6	403.0	407.1	403.0	405.8	394.8
45°	335.6	332.9	328.7	330.1	330.1	323.2	327.4	330.1	326.0	327.4	317.7
47.5°	266.8	262.7	262.7	261.3	261.3	258.6	262.7	261.3	257.2	260.0	250.3
50°	207.7	204.9	204.9	204.9	204.9	200.8	202.2	204.9	200.8	200.8	195.3
52.5°	162.3	158.2	155.4	155.4	155.4	154.1	154.1	155.4	151.3	151.3	149.9
55°	122.4	121.0	116.9	116.9	116.9	112.8	114.2	114.2	112.8	112.8	108.7
57.5°	90.8	86.7	83.9	83.9	81.2	81.2	79.8	81.2	78.4	78.4	75.7
60°	60.5	57.8	56.4	55.0	55.0	53.6	55.0	53.6	53.6	52.3	50.9
62.5°	44.0	41.3	38.5	38.5	38.5	37.1	37.1	37.1	37.1	37.1	35.8
65°	31.6	28.9	28.9	27.5	27.5	26.1	26.1	26.1	26.1	26.1	24.8
67.5°	22.0	20.6	19.3	19.3	19.3	19.3	19.3	19.3	17.9	17.9	17.9
70°	16.5	15.1	13.8	13.8	13.8	13.8	13.8	12.4	13.8	13.8	12.4
72.5°	11.0	11.0	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
75°	8.3	8.3	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
77.5°	5.5	5.5	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
80°	4.1	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	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: P251626

CATALOG NUMBER: LD4B30D010 EU4B30509024 4LBSW1H

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4	1067.4
2.5°	1093.5	1092.1	1089.4	1093.5	1082.5	1078.4	1077.0	1089.4
5°	1108.6	1105.9	1105.9	1110.0	1097.6	1094.9	1092.1	1105.9
7.5°	1122.4	1119.7	1119.7	1123.8	1112.8	1110.0	1107.3	1121.0
10°	1130.7	1130.7	1130.7	1133.4	1123.8	1121.0	1119.7	1133.4
12.5°	1134.8	1134.8	1133.4	1138.9	1126.5	1126.5	1123.8	1137.5
15°	1129.3	1129.3	1129.3	1133.4	1122.4	1119.7	1119.7	1130.7
17.5°	1115.5	1115.5	1114.1	1118.3	1105.9	1105.9	1104.5	1116.9
20°	1094.9	1094.9	1092.1	1097.6	1085.3	1081.1	1079.8	1092.1
22.5°	1061.9	1060.5	1059.1	1061.9	1050.9	1048.1	1046.7	1057.8
25°	1019.2	1017.9	1015.1	1017.9	1005.5	1001.4	1001.4	1009.6
27.5°	958.7	958.7	954.6	958.7	945.0	943.6	942.2	951.8
30°	884.4	878.9	876.2	881.7	867.9	867.9	865.2	874.8
32.5°	792.3	786.8	785.4	788.2	775.8	771.7	777.2	782.7
35°	686.4	687.7	682.2	682.2	671.2	672.6	674.0	682.2
37.5°	584.6	581.8	580.5	581.8	573.6	570.8	568.1	576.3
40°	489.7	482.8	481.4	481.4	474.5	473.2	474.5	478.7
42.5°	400.3	398.9	393.4	396.1	389.3	392.0	390.6	390.6
45°	323.2	324.6	319.1	323.2	317.7	313.6	313.6	316.4
47.5°	255.8	255.8	254.5	254.5	250.3	251.7	249.0	253.1
50°	198.1	198.1	195.3	196.7	193.9	193.9	192.6	193.9
52.5°	151.3	149.9	149.9	148.6	145.8	147.2	148.6	145.8
55°	110.0	111.4	108.7	110.0	107.3	108.7	107.3	108.7
57.5°	75.7	77.0	74.3	77.0	74.3	75.7	74.3	74.3
60°	52.3	52.3	50.9	52.3	50.9	50.9	49.5	52.3
62.5°	35.8	35.8	35.8	35.8	35.8	34.4	35.8	35.8
65°	26.1	24.8	24.8	24.8	24.8	24.8	24.8	24.8
67.5°	17.9	17.9	17.9	17.9	17.9	17.9	17.9	17.9
70°	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
72.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6
75°	6.9	6.9	6.9	6.9	6.9	6.9	6.9	6.9
77.5°	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
85°	1.4	1.4	1.4	0.0	1.4	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



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















(END OF REPORT)