

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: PORTFOLIO

Report Number: P563801

Luminaire Tested: **LD4C20D010 EX4C20D2W 4LBSQLWWLI**

Issue Date: 2/18/2022

Test Information

Test Method: LM-79-08
Report Number: P563801
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)
Test Lab: INNOVATION CENTER
Issue Date: 2/18/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: PORTFOLIO
Catalog Number: LD4C20D010 EX4C20D2W 4LBSQLWWLI
Description: 4 INCH 2000 LUMEN PORTFOLIO LED DOWNLIGHT WITH, 3000K, 90CRI LEDS
AND 4LBSQLWW TRIM WITH LI FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

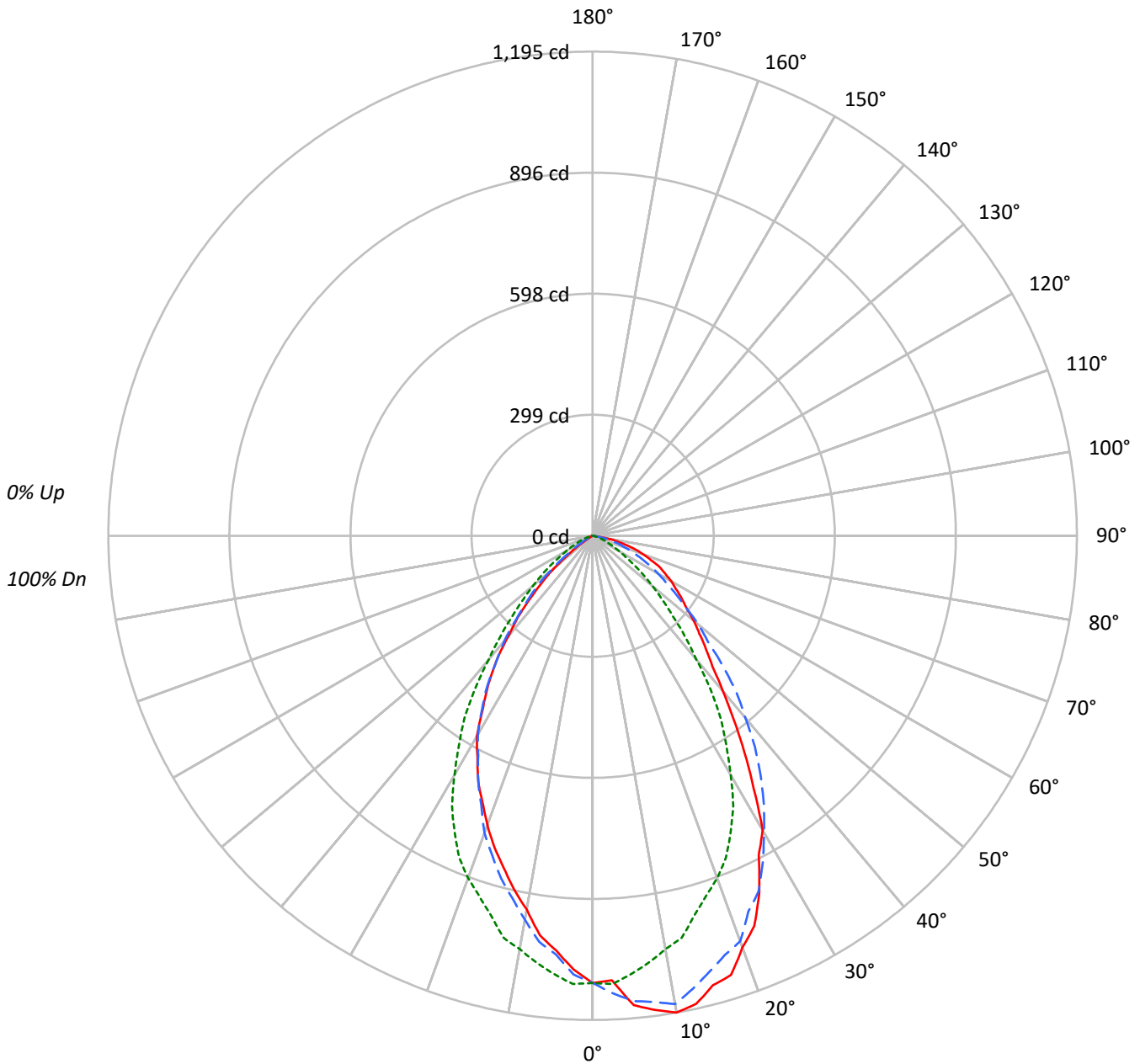
Lumens per Lamp: N/A
Luminaire Lumens: 1581.7 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 21.8
Input Voltage (V):
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			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	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90			
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80			
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72			
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64			
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58			
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53			
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48			
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44			
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41			
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	106475	106475	106475
5°	112655	105216	99579
10°	117063	101505	91775
15°	114717	96876	84719
20°	110999	92249	77976
25°	103536	85778	71139
30°	93467	75919	63685
35°	77000	64985	52841
40°	62828	50156	40672
45°	53982	38098	29242
50°	48861	29001	18479
55°	44966	20927	6678
60°	43150	14300	1023
65°	41690	9658	297
70°	37324	6714	367
75°	30607	3467	0
80°	19115	1445	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.4	6.5
10°-20°	278.5	17.6
20°-30°	371.9	23.5
30°-40°	353.1	22.3
40°-50°	244.1	15.4
50°-60°	134.9	8.5
60°-70°	67.0	4.2
70°-80°	26.4	1.7
80°-90°	2.5	0.2
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°	753.9	47.7
0°-40°	1107.0	70.0
0°-60°	1485.9	93.9
0°-90°	1581.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1581.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1104	1104	1104	1104	1104	
5°	1163	1152	1086	1037	1028	111
15°	1148	1114	970	875	848	325
25°	972	969	806	668	668	443
35°	654	722	552	454	449	409
45°	396	454	279	229	214	309
55°	267	252	124	64	40	241
65°	183	132	42	1	1	177
75°	82	50	9	0	0	87
85°	0	1	0	0	0	8
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°	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5
2.5°	1098.2	1128.6	1131.2	1128.6	1132.6	1131.2	1137.8	1131.2	1139.3	1127.3	1129.9
5°	1163.1	1151.1	1176.3	1163.1	1163.1	1161.7	1157.8	1156.4	1161.7	1144.6	1152.5
7.5°	1180.3	1197.4	1219.9	1192.2	1193.5	1193.5	1185.5	1182.9	1182.9	1151.1	1160.4
10°	1194.8	1184.1	1196.1	1185.5	1194.8	1193.5	1198.8	1181.6	1193.5	1175.0	1173.6
12.5°	1182.9	1178.9	1194.8	1177.6	1172.3	1173.6	1167.0	1163.1	1167.0	1145.8	1144.6
15°	1148.4	1152.5	1176.3	1157.8	1155.1	1152.5	1144.6	1131.2	1141.9	1112.7	1114.1
17.5°	1136.6	1129.9	1134.0	1118.0	1122.0	1119.3	1118.0	1106.2	1103.5	1084.9	1084.9
20°	1081.0	1095.5	1095.5	1084.9	1084.9	1083.6	1066.4	1077.0	1065.1	1059.8	1065.1
22.5°	1042.6	1044.0	1044.0	1034.7	1036.0	1030.7	1021.5	1014.9	1021.5	1014.9	1004.3
25°	972.5	975.2	991.1	973.9	971.2	976.4	968.6	964.5	963.3	947.4	968.6
27.5°	887.8	914.3	912.9	906.3	914.3	903.7	899.7	901.0	905.0	903.7	909.0
30°	838.9	842.9	846.8	841.5	842.9	838.9	838.9	840.2	850.8	846.8	845.5
32.5°	739.6	752.8	763.5	763.5	764.7	768.7	767.4	795.1	801.9	788.6	786.0
35°	653.7	662.9	672.2	673.5	690.7	692.0	693.3	701.3	719.8	723.7	722.4
37.5°	571.6	580.8	583.5	595.4	604.7	613.9	624.6	635.1	651.0	664.2	657.6
40°	498.8	502.8	509.4	514.7	533.2	533.2	538.5	559.7	576.9	587.4	586.1
42.5°	438.0	439.2	444.5	453.9	471.1	467.1	471.1	485.6	510.7	512.1	526.6
45°	395.6	394.3	398.2	399.6	410.2	415.5	418.2	428.6	449.8	452.5	453.9
47.5°	357.2	355.9	362.5	365.2	369.1	374.4	374.4	375.8	383.7	390.3	385.0
50°	325.5	325.5	325.5	328.1	334.8	333.4	334.8	340.0	344.0	341.4	340.0
52.5°	291.0	296.3	300.4	301.7	303.0	303.0	304.3	301.7	300.4	296.3	288.4
55°	267.3	272.6	272.6	272.6	272.6	277.9	271.3	272.6	272.6	262.0	251.5
57.5°	243.5	248.8	252.7	247.4	252.7	247.4	244.7	243.5	240.8	230.2	214.3
60°	223.6	226.2	224.9	223.6	226.2	222.3	219.6	214.3	211.7	197.1	186.6
62.5°	201.1	202.4	203.7	201.1	198.5	197.1	191.8	183.9	178.6	166.7	157.5
65°	182.6	178.6	177.3	176.0	173.3	169.4	165.4	156.1	152.2	141.6	132.3
67.5°	154.8	153.5	156.1	152.2	145.6	145.6	141.6	133.7	124.4	117.8	108.5
70°	132.3	131.0	128.4	124.4	123.1	117.8	117.8	108.5	105.9	93.9	86.0
72.5°	108.5	108.5	104.5	100.6	96.5	93.9	92.7	86.0	82.1	75.4	68.8
75°	82.1	82.1	80.7	76.7	74.1	71.4	70.2	64.9	60.8	54.3	50.2
77.5°	58.2	58.2	52.9	50.2	51.6	48.9	46.3	45.0	43.6	39.7	34.4
80°	34.4	33.1	29.1	30.4	29.1	29.1	27.8	26.4	23.8	21.2	18.5
82.5°	9.3	10.6	10.6	10.6	11.9	9.3	9.3	9.3	10.6	10.6	6.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3	1.3
87.5°	1.3	2.6	5.3	5.3	5.3	5.3	5.3	4.0	4.0	4.0	2.6
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°	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5
2.5°	1116.7	1115.4	1116.7	1107.4	1128.6	1112.7	1110.1	1107.4	1116.7	1107.4	1094.2
5°	1140.5	1127.3	1123.3	1119.3	1131.2	1112.7	1108.8	1110.1	1103.5	1086.3	1087.6
7.5°	1148.4	1136.6	1124.6	1099.5	1110.1	1106.2	1095.5	1087.6	1077.0	1062.5	1059.8
10°	1151.1	1137.8	1120.6	1112.7	1096.8	1091.6	1087.6	1074.4	1061.1	1036.0	1029.4
12.5°	1143.1	1127.3	1106.2	1099.5	1087.6	1070.4	1061.1	1047.9	1036.0	1016.2	1001.6
15°	1108.8	1095.5	1088.9	1066.4	1061.1	1050.6	1032.1	1013.5	996.3	969.8	961.9
17.5°	1069.1	1063.8	1057.2	1040.0	1038.7	1028.1	1010.9	994.9	972.5	931.5	918.2
20°	1028.1	1028.1	1006.9	1000.3	1013.5	992.3	979.1	964.5	918.2	898.4	874.6
22.5°	997.7	983.1	971.2	960.6	961.9	948.6	930.1	901.0	883.8	860.0	832.3
25°	938.1	943.4	916.9	912.9	916.9	886.5	877.2	853.4	828.3	805.7	784.6
27.5°	901.0	886.5	869.3	854.8	854.8	842.9	816.4	811.1	772.7	751.5	725.1
30°	845.5	834.9	820.4	799.2	796.6	787.2	766.2	752.8	713.2	681.4	666.9
32.5°	775.3	771.3	759.4	735.6	727.7	717.1	690.7	668.2	649.7	613.9	596.8
35°	725.1	710.5	685.4	665.6	658.9	640.4	619.2	603.3	583.5	551.7	529.2
37.5°	649.7	635.1	611.2	587.4	587.4	568.9	539.8	524.0	496.2	477.7	459.2
40°	583.5	565.0	541.2	513.4	509.4	483.0	471.1	444.5	427.3	398.2	395.6
42.5°	509.4	492.2	471.1	449.8	433.9	420.7	390.3	370.5	352.0	337.4	333.4
45°	441.9	419.4	400.9	374.4	358.6	342.7	322.9	309.6	295.1	279.2	270.0
47.5°	383.7	365.2	338.7	314.9	299.1	291.0	268.5	254.1	242.1	231.5	224.9
50°	324.2	301.7	287.2	260.6	258.0	239.4	220.9	209.0	202.4	193.2	183.9
52.5°	279.2	258.0	238.1	218.3	207.7	201.1	183.9	172.0	162.8	156.1	150.9
55°	235.5	217.0	201.1	181.3	174.7	165.4	145.6	142.9	133.7	124.4	117.8
57.5°	202.4	185.2	166.7	153.5	141.6	135.0	119.1	108.5	103.2	95.3	88.6
60°	172.0	153.5	138.9	123.1	117.8	108.5	96.5	87.4	80.7	74.1	67.5
62.5°	144.2	128.4	112.5	99.2	91.2	86.0	76.7	68.8	62.3	57.0	51.6
65°	119.1	104.5	91.2	78.0	74.1	67.5	60.8	54.3	48.9	42.3	37.0
67.5°	98.0	84.7	71.4	62.3	58.2	55.5	47.6	41.0	37.0	33.1	27.8
70°	76.7	67.5	57.0	48.9	45.0	41.0	35.7	31.7	26.4	23.8	19.8
72.5°	59.6	51.6	42.3	35.7	33.1	30.4	25.1	21.2	18.5	15.9	13.2
75°	42.3	35.7	30.4	23.8	22.5	21.2	17.2	14.5	11.9	9.3	7.9
77.5°	29.1	23.8	18.5	15.9	14.5	11.9	10.6	7.9	6.6	5.3	4.0
80°	15.9	11.9	9.3	7.9	6.6	5.3	5.3	4.0	2.6	2.6	1.3
82.5°	5.3	4.0	2.6	1.3	1.3	1.3	1.3	1.3	1.3	0.0	1.3
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°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	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°	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5
2.5°	1102.1	1087.6	1091.6	1091.6	1088.9	1088.9	1086.3	1082.3	1083.6	1075.7	1058.5
5°	1090.2	1071.7	1069.1	1071.7	1061.1	1058.5	1053.2	1061.1	1037.3	1046.6	1036.0
7.5°	1055.9	1038.7	1034.7	1044.0	1030.7	1022.8	1021.5	1032.1	1010.9	1000.3	988.4
10°	1017.5	1010.9	999.0	992.3	988.4	989.6	979.1	965.9	961.9	959.2	948.6
12.5°	983.1	968.6	958.0	950.1	947.4	947.4	930.1	927.5	915.6	912.9	897.1
15°	942.0	924.8	918.2	907.6	898.4	903.7	883.8	878.6	874.6	857.4	860.0
17.5°	906.3	887.8	871.9	865.3	857.4	849.5	831.0	834.9	825.7	825.7	801.9
20°	860.0	840.2	828.3	815.1	815.1	804.5	791.3	792.5	780.6	768.7	747.5
22.5°	811.1	789.9	775.3	770.0	756.8	754.2	738.3	734.3	718.4	719.8	701.3
25°	759.4	738.3	718.4	719.8	707.9	702.6	693.3	674.8	668.2	660.3	655.0
27.5°	698.6	684.1	666.9	665.6	643.1	644.3	632.5	627.2	611.2	615.3	603.3
30°	643.1	621.9	605.9	602.1	592.7	590.1	571.6	563.6	566.3	555.7	549.1
32.5°	586.1	554.4	547.8	539.8	534.5	527.9	514.7	520.0	508.1	510.7	500.2
35°	510.7	497.5	480.3	480.3	475.0	469.7	460.5	465.8	453.9	448.6	438.0
37.5°	447.2	435.4	418.2	423.4	414.1	406.2	398.2	399.6	389.0	387.7	377.1
40°	378.4	371.8	359.9	359.9	353.3	353.3	349.3	345.3	338.7	330.8	318.9
42.5°	313.6	308.3	303.0	304.3	295.1	303.0	292.4	299.1	277.9	276.6	268.5
45°	265.9	254.1	255.3	250.0	244.7	247.4	238.1	240.8	228.9	226.2	218.3
47.5°	215.6	211.7	203.7	201.1	201.1	197.1	193.2	191.8	186.6	179.9	169.4
50°	177.3	162.8	160.1	156.1	153.5	153.5	148.2	140.3	141.6	135.0	124.4
52.5°	138.9	127.0	121.8	120.4	115.1	112.5	105.9	100.6	96.5	93.9	87.4
55°	107.1	96.5	90.0	90.0	82.1	82.1	72.7	68.8	63.5	58.2	54.3
57.5°	80.7	75.4	68.8	63.5	60.8	54.3	48.9	42.3	38.3	30.4	25.1
60°	60.8	55.5	48.9	45.0	42.3	35.7	29.1	23.8	14.5	11.9	10.6
62.5°	45.0	39.7	33.1	30.4	27.8	22.5	15.9	7.9	4.0	4.0	4.0
65°	33.1	26.4	21.2	18.5	15.9	11.9	5.3	2.6	1.3	1.3	1.3
67.5°	22.5	17.2	11.9	10.6	7.9	4.0	1.3	1.3	1.3	1.3	1.3
70°	14.5	10.6	5.3	4.0	2.6	1.3	1.3	1.3	1.3	1.3	1.3
72.5°	9.3	5.3	2.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	5.3	2.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	2.6	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.3	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	1.3	1.3	1.3
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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CATALOG NUMBER: LD4C20D010 EX4C20D2W 4LBSQLWWLI

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5	1103.5
2.5°	1077.0	1067.8	1073.0	1061.1	1066.4	1075.7	1069.1	1071.7
5°	1040.0	1034.7	1028.1	1010.9	1024.1	1034.7	1029.4	1028.1
7.5°	1000.3	981.7	991.1	985.8	983.1	993.7	981.7	994.9
10°	959.2	946.0	944.8	935.4	935.4	943.4	944.8	936.7
12.5°	898.4	891.8	891.8	890.5	889.1	897.1	898.4	894.4
15°	854.8	852.1	845.5	844.2	836.2	848.1	849.5	848.1
17.5°	801.9	803.1	796.6	796.6	801.9	805.7	795.1	805.7
20°	766.2	759.4	756.8	744.9	751.5	758.2	758.2	759.4
22.5°	714.5	703.9	707.9	701.3	697.3	706.5	706.5	710.5
25°	656.3	656.3	658.9	655.0	657.6	662.9	658.9	668.2
27.5°	600.7	605.9	605.9	600.7	603.3	619.2	625.9	615.3
30°	549.1	550.4	554.4	551.7	559.7	565.0	563.6	571.6
32.5°	490.9	497.5	500.2	496.2	498.8	510.7	504.1	502.8
35°	445.9	433.9	432.7	433.9	439.2	441.9	439.2	448.6
37.5°	381.0	377.1	371.8	373.1	377.1	382.4	385.0	391.6
40°	318.9	313.6	313.6	312.3	308.3	322.9	322.9	322.9
42.5°	264.7	263.3	256.7	256.7	262.0	265.9	263.3	272.6
45°	217.0	211.7	207.7	207.7	211.7	211.7	215.6	214.3
47.5°	170.7	165.4	166.7	162.8	166.7	172.0	165.4	166.7
50°	128.4	128.4	125.7	128.4	127.0	128.4	125.7	123.1
52.5°	87.4	99.2	100.6	95.3	83.3	72.7	66.1	71.4
55°	50.2	45.0	45.0	43.6	41.0	39.7	35.7	39.7
57.5°	25.1	22.5	22.5	22.5	21.2	19.8	17.2	17.2
60°	10.6	9.3	9.3	7.9	6.6	5.3	4.0	5.3
62.5°	4.0	2.6	2.6	2.6	2.6	2.6	2.6	2.6
65°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
67.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
70°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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 670246072 / DESKTOP-50001EG





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













(END OF REPORT)