

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: P226270

Luminaire Tested: **LD2B20D010 EU2B20WW8030 2LBSW***

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P226270
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P14828)
Test Lab: INNOVATION CENTER (G1)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD2B20D010 EU2B20WW8030 2LBSW*
Description: 2000 Lumen, 2inch Portfolio LED Downlight
WALL WASH OPTIC
WALL WASH LENSED TRIM
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1331.8 lumens
Efficiency: N/A
Efficacy: 63.7 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.79 / 1.02
Luminous Opening: Rectangular (W 0.17' x L: 0.17' x H: 0')
CIE Type: Direct

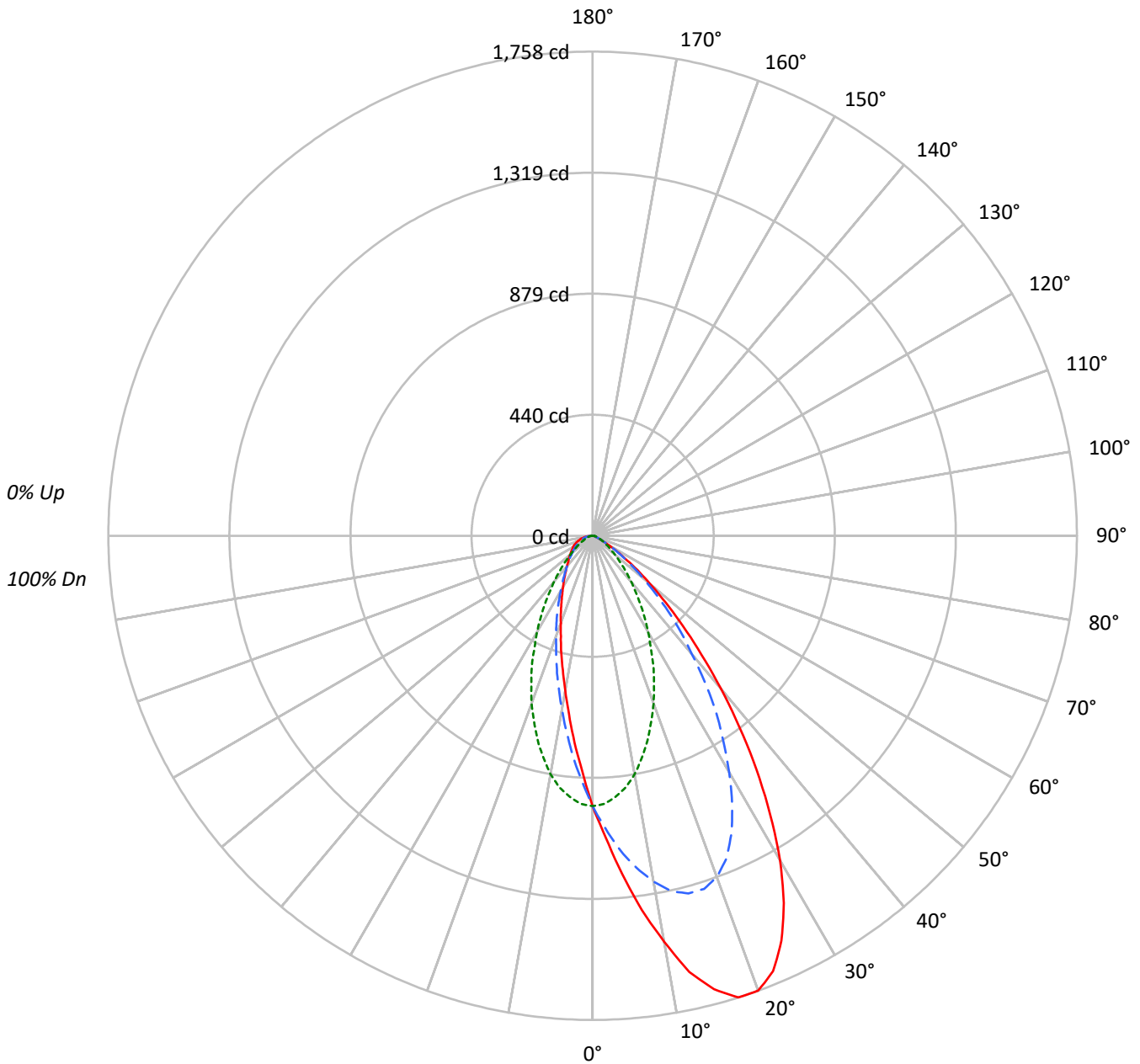
Input Watts (W): 20.9
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	112	109	105	103	109	106	104	101	102	100	98	98	97	95	95	94	92	90																			
2	105	99	94	90	102	97	92	89	94	90	87	91	87	85	88	85	83	81																			
3	98	90	84	79	96	89	83	79	86	81	77	83	79	76	81	78	75	73																			
4	92	83	76	71	90	81	75	70	79	74	69	77	72	69	75	71	68	66																			
5	86	76	69	64	84	75	68	63	73	67	63	71	66	62	70	65	62	60																			
6	81	70	63	58	79	69	63	58	68	62	57	66	61	57	65	60	56	55																			
7	76	65	58	53	75	64	58	53	63	57	52	62	56	52	60	56	52	50																			
8	72	60	53	49	70	60	53	49	59	53	48	58	52	48	57	52	48	46																			
9	68	56	50	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43																			
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	380064	380064	380064
5°	479111	369929	292863
10°	588606	345651	224783
15°	683602	308657	176204
20°	724450	266903	138913
25°	693268	223097	114369
30°	608777	180249	96029
35°	490500	142142	82798
40°	365834	110230	73521
45°	253353	83264	66940
50°	163245	61707	63695
55°	95963	46867	62467
60°	51207	38425	63990
65°	24197	30246	63608
70°	11212	26161	63648
75°	14816	24694	69292
80°	14722	22083	66250
85°	14666	29332	58665



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.7	7.0
10°-20°	258.8	19.4
20°-30°	337.6	25.3
30°-40°	292.2	21.9
40°-50°	185.0	13.9
50°-60°	92.7	7.0
60°-70°	42.6	3.2
70°-80°	22.9	1.7
80°-90°	7.4	0.6
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°	689.0	51.7
0°-40°	981.2	73.7
0°-60°	1258.9	94.5
0°-90°	1331.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1331.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	981	981	981	981	981	
5°	1232	1146	951	806	753	126
15°	1705	1345	770	502	439	479
25°	1622	1193	522	301	268	735
35°	1037	780	301	182	175	645
45°	462	386	152	119	122	364
55°	142	132	69	79	92	136
65°	26	30	33	56	69	30
75°	10	10	16	33	46	9
85°	3	3	7	10	13	3
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°	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2
2.5°	1096.8	1103.4	1103.4	1106.7	1093.5	1096.8	1096.8	1090.2	1080.3	1073.7	1063.8
5°	1232.2	1232.2	1228.9	1232.2	1222.3	1215.7	1219.0	1205.8	1179.4	1166.2	1146.4
7.5°	1371.0	1364.4	1364.4	1361.1	1344.6	1334.7	1331.4	1308.2	1271.9	1245.5	1215.7
10°	1496.5	1496.5	1489.9	1483.3	1460.2	1447.0	1437.1	1400.7	1361.1	1318.1	1275.2
12.5°	1622.1	1615.5	1605.6	1592.3	1559.3	1546.1	1529.6	1486.6	1427.2	1377.6	1321.4
15°	1704.7	1708.0	1691.4	1674.9	1638.6	1618.8	1598.9	1546.1	1476.7	1413.9	1344.6
17.5°	1757.5	1754.2	1737.7	1717.9	1678.2	1655.1	1632.0	1569.2	1496.5	1420.6	1344.6
20°	1757.5	1757.5	1737.7	1717.9	1674.9	1648.5	1625.4	1559.3	1480.0	1400.7	1318.1
22.5°	1711.3	1704.7	1691.4	1671.6	1628.7	1605.6	1579.1	1513.1	1430.5	1354.5	1268.6
25°	1622.1	1622.1	1605.6	1582.4	1546.1	1519.7	1496.5	1430.5	1351.2	1275.2	1192.6
27.5°	1503.1	1499.8	1483.3	1466.8	1427.2	1407.3	1384.2	1321.4	1252.1	1182.7	1096.8
30°	1361.1	1354.5	1347.9	1321.4	1295.0	1278.5	1258.7	1202.5	1133.1	1067.1	991.1
32.5°	1199.2	1209.1	1192.6	1176.1	1153.0	1136.4	1119.9	1077.0	1014.2	954.7	882.1
35°	1037.3	1043.9	1034.0	1020.8	997.7	987.8	971.3	934.9	888.7	832.5	779.7
37.5°	875.5	875.5	875.5	865.5	852.3	842.4	832.5	799.5	759.8	716.9	667.3
40°	723.5	733.4	720.2	716.9	707.0	703.7	693.8	670.6	637.6	607.9	561.6
42.5°	584.7	584.7	588.0	581.4	578.1	571.5	564.9	551.7	528.6	502.1	472.4
45°	462.5	465.8	469.1	459.2	459.2	459.2	455.9	442.7	422.9	406.3	386.5
47.5°	360.1	360.1	363.4	360.1	360.1	360.1	353.5	353.5	340.3	323.8	307.2
50°	270.9	274.2	277.5	277.5	277.5	274.2	274.2	267.6	261.0	254.4	237.9
52.5°	204.8	204.8	201.5	204.8	204.8	204.8	204.8	201.5	198.2	191.6	181.7
55°	142.1	142.1	145.4	145.4	145.4	148.7	148.7	148.7	145.4	142.1	132.1
57.5°	99.1	99.1	99.1	102.4	105.7	105.7	105.7	105.7	102.4	99.1	95.8
60°	66.1	66.1	66.1	69.4	69.4	69.4	69.4	72.7	69.4	69.4	66.1
62.5°	42.9	42.9	42.9	42.9	42.9	46.3	46.3	46.3	46.3	46.3	42.9
65°	26.4	26.4	26.4	26.4	26.4	26.4	29.7	29.7	29.7	29.7	29.7
67.5°	16.5	16.5	16.5	16.5	16.5	19.8	19.8	19.8	19.8	19.8	19.8
70°	9.9	9.9	9.9	9.9	13.2	13.2	13.2	13.2	13.2	13.2	13.2
72.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
75°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9
77.5°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	9.9	9.9	9.9
80°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	6.6	6.6	3.3
85°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2
2.5°	1063.8	1050.5	1043.9	1027.4	1024.1	1010.9	1010.9	997.7	981.2	974.6	958.0
5°	1133.1	1106.7	1093.5	1063.8	1053.9	1034.0	1024.1	997.7	971.3	951.4	928.3
7.5°	1192.6	1153.0	1126.5	1086.9	1070.4	1040.6	1020.8	987.8	951.4	921.7	888.7
10°	1238.9	1186.0	1146.4	1093.5	1073.7	1037.3	1007.6	961.3	915.1	878.8	839.1
12.5°	1268.6	1205.8	1149.7	1086.9	1060.5	1020.8	977.9	925.0	872.2	825.9	783.0
15°	1281.8	1205.8	1139.7	1063.8	1034.0	991.1	941.5	878.8	819.3	769.7	723.5
17.5°	1271.9	1182.7	1113.3	1027.4	994.4	944.8	888.7	822.6	759.8	707.0	660.7
20°	1238.9	1146.4	1067.1	977.9	941.5	892.0	829.2	763.1	700.4	647.5	598.0
22.5°	1182.7	1086.9	1004.3	915.1	878.8	829.2	763.1	697.1	634.3	581.4	535.2
25°	1113.3	1010.9	928.3	842.4	802.8	759.8	693.8	627.7	568.2	522.0	475.7
27.5°	1020.8	931.6	849.0	763.1	726.8	687.1	621.1	561.6	502.1	455.9	416.3
30°	921.7	835.8	766.4	683.8	650.8	611.2	555.0	495.5	446.0	403.0	366.7
32.5°	822.6	740.0	673.9	604.6	574.8	535.2	485.6	432.8	386.5	350.2	320.4
35°	720.2	650.8	588.0	522.0	498.8	465.8	419.6	373.3	333.7	300.6	270.9
37.5°	617.8	561.6	505.5	452.6	426.2	399.7	356.8	317.1	280.8	254.4	231.3
40°	525.3	475.7	429.5	379.9	356.8	337.0	300.6	267.6	241.2	218.0	198.2
42.5°	436.1	396.4	356.8	317.1	297.3	280.8	251.1	221.3	198.2	181.7	165.2
45°	356.8	327.1	294.0	257.7	247.8	227.9	204.8	185.0	165.2	152.0	138.8
47.5°	287.4	261.0	234.6	208.1	198.2	185.0	165.2	148.7	135.4	125.5	115.6
50°	224.6	204.8	188.3	165.2	158.6	145.4	132.1	118.9	109.0	102.4	95.8
52.5°	171.8	155.3	142.1	128.8	122.2	115.6	102.4	95.8	89.2	85.9	82.6
55°	125.5	115.6	105.7	95.8	92.5	85.9	79.3	72.7	69.4	69.4	69.4
57.5°	89.2	82.6	76.0	69.4	69.4	66.1	62.8	59.5	56.2	56.2	56.2
60°	62.8	59.5	56.2	52.9	49.6	49.6	46.3	49.6	46.3	49.6	49.6
62.5°	42.9	39.6	39.6	36.3	36.3	36.3	36.3	36.3	39.6	39.6	42.9
65°	26.4	26.4	26.4	26.4	26.4	26.4	29.7	29.7	29.7	33.0	33.0
67.5°	19.8	19.8	19.8	23.1	23.1	23.1	23.1	26.4	26.4	26.4	29.7
70°	13.2	16.5	16.5	16.5	16.5	16.5	19.8	19.8	19.8	23.1	23.1
72.5°	13.2	13.2	13.2	13.2	13.2	13.2	16.5	16.5	16.5	19.8	19.8
75°	9.9	13.2	13.2	13.2	13.2	13.2	13.2	16.5	16.5	16.5	19.8
77.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	13.2	13.2	13.2	13.2
80°	6.6	6.6	6.6	9.9	9.9	9.9	9.9	9.9	9.9	9.9	13.2
82.5°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	9.9
85°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	6.6	3.3	6.6	6.6
87.5°	0.0	0.0	0.0	3.3	0.0	3.3	3.3	3.3	3.3	3.3	3.3
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2
2.5°	951.4	941.5	944.8	925.0	928.3	915.1	908.5	898.6	892.0	882.1	885.4
5°	911.8	895.3	888.7	865.5	868.8	849.0	835.8	819.3	806.1	789.6	786.3
7.5°	862.2	835.8	825.9	802.8	799.5	773.0	756.5	736.7	720.2	703.7	697.1
10°	806.1	776.3	756.5	733.4	730.1	700.4	680.5	660.7	640.9	624.4	617.8
12.5°	746.6	713.6	690.5	664.0	657.4	631.0	607.9	588.0	568.2	551.7	541.8
15°	683.8	647.5	624.4	598.0	591.3	561.6	541.8	518.7	502.1	485.6	479.0
17.5°	621.1	584.7	558.3	535.2	528.6	498.8	475.7	459.2	439.4	429.5	419.6
20°	558.3	522.0	495.5	475.7	465.8	442.7	419.6	403.0	386.5	376.6	366.7
22.5°	495.5	462.5	439.4	419.6	413.0	389.8	370.0	353.5	343.6	330.4	323.8
25°	439.4	406.3	386.5	366.7	360.1	340.3	327.1	310.5	300.6	290.7	284.1
27.5°	386.5	356.8	337.0	320.4	317.1	300.6	284.1	274.2	264.3	257.7	254.4
30°	333.7	310.5	294.0	280.8	277.5	261.0	247.8	241.2	231.3	227.9	224.6
32.5°	294.0	270.9	257.7	244.5	241.2	227.9	221.3	211.4	204.8	201.5	201.5
35°	251.1	234.6	221.3	214.7	211.4	201.5	191.6	188.3	181.7	178.4	178.4
37.5°	214.7	201.5	191.6	181.7	181.7	175.1	168.5	165.2	161.9	161.9	158.6
40°	185.0	171.8	168.5	161.9	158.6	155.3	152.0	148.7	145.4	145.4	145.4
42.5°	155.3	148.7	142.1	138.8	138.8	135.4	132.1	132.1	128.8	132.1	132.1
45°	132.1	125.5	122.2	118.9	122.2	118.9	118.9	115.6	118.9	118.9	118.9
47.5°	112.3	109.0	105.7	105.7	105.7	105.7	105.7	105.7	105.7	109.0	109.0
50°	95.8	92.5	92.5	92.5	92.5	92.5	95.8	95.8	95.8	99.1	99.1
52.5°	79.3	79.3	79.3	79.3	82.6	82.6	85.9	85.9	89.2	89.2	92.5
55°	69.4	69.4	69.4	69.4	72.7	72.7	76.0	79.3	79.3	82.6	85.9
57.5°	59.5	59.5	62.8	62.8	66.1	66.1	69.4	72.7	72.7	76.0	79.3
60°	49.6	52.9	56.2	56.2	56.2	59.5	62.8	66.1	66.1	69.4	72.7
62.5°	42.9	46.3	49.6	49.6	49.6	52.9	56.2	59.5	59.5	62.8	66.1
65°	36.3	39.6	42.9	42.9	42.9	46.3	49.6	52.9	56.2	56.2	59.5
67.5°	33.0	33.0	36.3	36.3	39.6	42.9	42.9	46.3	49.6	52.9	56.2
70°	26.4	29.7	33.0	33.0	33.0	36.3	39.6	42.9	42.9	46.3	49.6
72.5°	23.1	23.1	26.4	26.4	29.7	33.0	33.0	36.3	39.6	39.6	42.9
75°	19.8	23.1	23.1	23.1	26.4	26.4	29.7	33.0	33.0	36.3	36.3
77.5°	16.5	16.5	19.8	19.8	19.8	23.1	23.1	26.4	26.4	29.7	29.7
80°	13.2	13.2	16.5	16.5	16.5	16.5	19.8	19.8	23.1	23.1	23.1
82.5°	9.9	9.9	9.9	9.9	13.2	13.2	13.2	13.2	16.5	16.5	16.5
85°	6.6	6.6	6.6	6.6	6.6	9.9	9.9	9.9	9.9	9.9	13.2
87.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
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: LD2B20D010 EU2B20WW8030 2LBSW*

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	981.2	981.2	981.2	981.2	981.2	981.2	981.2	981.2
2.5°	875.5	875.5	872.2	868.8	865.5	862.2	858.9	855.6
5°	776.3	779.7	766.4	763.1	763.1	756.5	759.8	753.2
7.5°	683.8	683.8	673.9	670.6	667.3	660.7	657.4	654.1
10°	601.3	598.0	591.3	588.0	581.4	578.1	578.1	571.5
12.5°	528.6	525.3	518.7	515.4	508.8	505.5	502.1	498.8
15°	465.8	462.5	455.9	452.6	449.3	442.7	442.7	439.4
17.5°	406.3	403.0	399.7	393.1	393.1	386.5	383.2	383.2
20°	360.1	356.8	350.2	346.9	346.9	343.6	343.6	337.0
22.5°	317.1	313.8	310.5	307.2	307.2	303.9	300.6	300.6
25°	280.8	277.5	274.2	274.2	270.9	267.6	267.6	267.6
27.5°	247.8	247.8	244.5	244.5	244.5	241.2	241.2	237.9
30°	221.3	221.3	218.0	218.0	218.0	214.7	218.0	214.7
32.5°	198.2	198.2	198.2	198.2	198.2	194.9	194.9	194.9
35°	178.4	178.4	178.4	178.4	178.4	175.1	178.4	175.1
37.5°	158.6	161.9	158.6	158.6	161.9	158.6	158.6	158.6
40°	145.4	145.4	145.4	145.4	145.4	145.4	145.4	145.4
42.5°	132.1	132.1	132.1	132.1	132.1	132.1	132.1	132.1
45°	118.9	122.2	122.2	122.2	122.2	122.2	122.2	122.2
47.5°	112.3	112.3	112.3	112.3	115.6	112.3	115.6	115.6
50°	102.4	102.4	102.4	105.7	105.7	105.7	105.7	105.7
52.5°	95.8	95.8	95.8	95.8	99.1	99.1	99.1	99.1
55°	85.9	89.2	89.2	89.2	92.5	92.5	92.5	92.5
57.5°	82.6	82.6	82.6	85.9	85.9	85.9	89.2	85.9
60°	76.0	76.0	79.3	79.3	79.3	82.6	82.6	82.6
62.5°	69.4	72.7	72.7	72.7	72.7	76.0	76.0	76.0
65°	62.8	66.1	66.1	66.1	69.4	69.4	69.4	69.4
67.5°	56.2	59.5	59.5	62.8	62.8	62.8	62.8	62.8
70°	49.6	52.9	52.9	52.9	56.2	56.2	56.2	56.2
72.5°	46.3	46.3	46.3	49.6	49.6	49.6	52.9	49.6
75°	39.6	42.9	42.9	42.9	42.9	42.9	46.3	46.3
77.5°	33.0	33.0	33.0	33.0	36.3	36.3	36.3	36.3
80°	26.4	26.4	26.4	26.4	29.7	29.7	29.7	29.7
82.5°	19.8	19.8	19.8	19.8	19.8	19.8	19.8	19.8
85°	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
87.5°	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6
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)