

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: P170842

Luminaire Tested: **LDA4A18930D010TE LAR25NF 4LLWW1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P170842
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26102)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A18930D010TE LAR25NF 4LLWW1
Description: PORTFOLIO 4" Lensed Wall Wash, Self-flanged, 25° Narrow Flood Optic,
at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1250.2 lumens
Efficiency: N/A
Efficacy: 42.9 lumens/watt
Spacing Criteria (0/90/45): 2.11 / 1.09 / 1.54
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

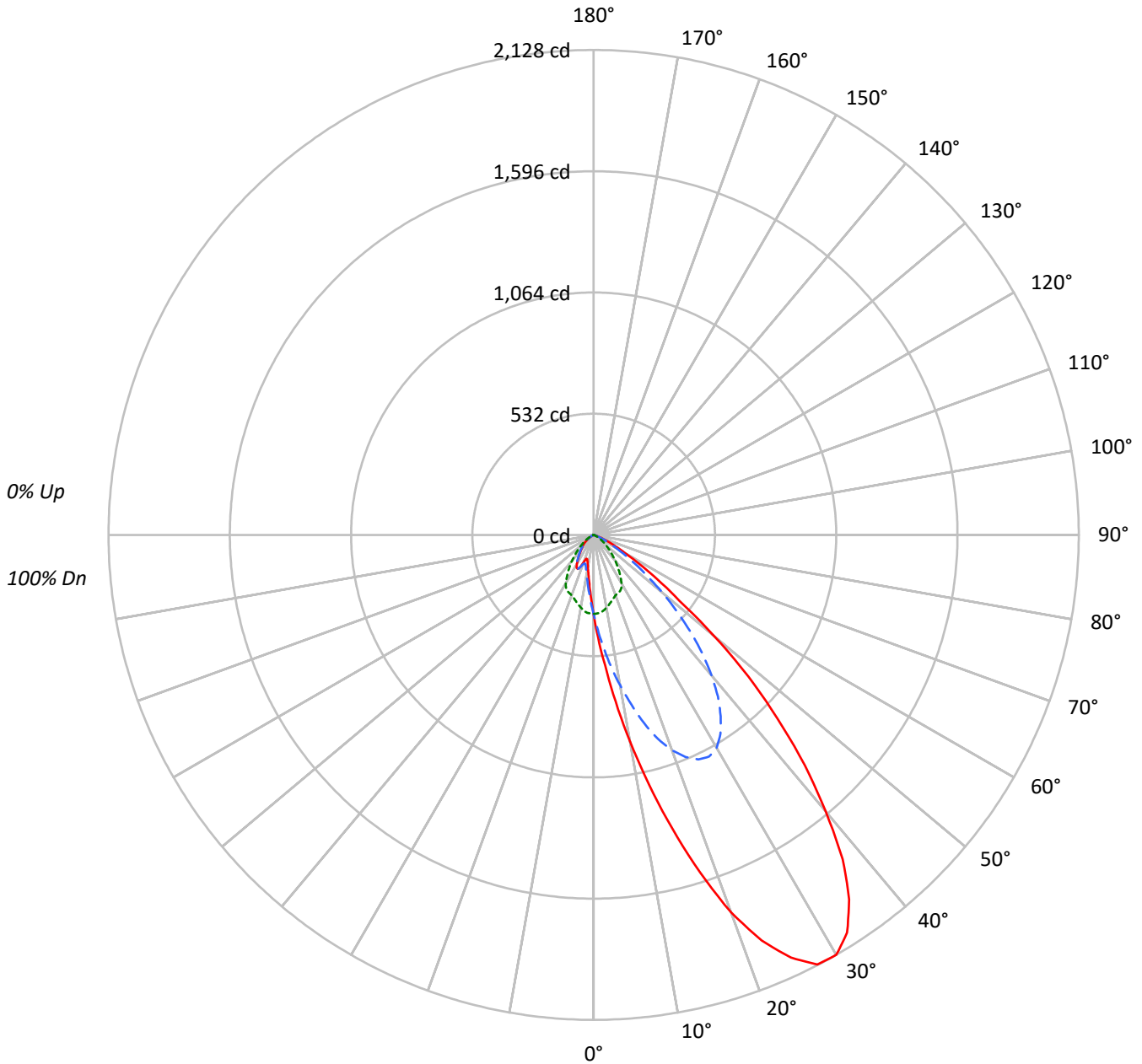
Input Watts (W): 29.12
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90																			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	84	87	84	82	80																			
3	97	89	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71																			
4	90	80	73	67	88	79	72	67	77	71	66	74	69	65	72	68	65	63																			
5	83	73	65	60	82	72	65	59	70	63	59	68	62	58	66	61	58	56																			
6	78	66	58	53	76	65	58	53	64	57	52	62	56	52	61	55	52	50																			
7	72	60	53	47	71	60	52	47	58	52	47	57	51	47	56	50	46	45																			
8	67	55	48	43	66	55	47	42	53	47	42	52	46	42	51	46	42	40																			
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	46	39	35	45	39	35	45	39	34	44	38	34	33																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	42752	42752	42752
5°	71133	42420	26695
10°	115166	40555	18036
15°	170296	38450	14021
20°	231336	36950	16552
25°	278509	37100	22483
30°	303057	34766	20980
35°	294168	29287	16789
40°	254824	23589	13751
45°	198719	18176	11775
50°	131772	13586	9057
55°	73481	9978	5419
60°	38731	6636	2220
65°	20897	3327	233
70°	9990	1190	289
75°	3479	763	381
80°	1137	1137	0
85°	3397	2264	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.0	3.0
10°-20°	145.9	11.7
20°-30°	300.1	24.0
30°-40°	358.5	28.7
40°-50°	264.7	21.2
50°-60°	111.4	8.9
60°-70°	27.4	2.2
70°-80°	3.7	0.3
80°-90°	1.5	0.1
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°	483.0	38.6
0°-40°	841.5	67.3
0°-60°	1217.6	97.4
0°-90°	1250.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1250.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	347	347	347	347	347	
5°	574	495	343	246	216	66
15°	1334	856	301	137	110	391
25°	2046	1087	273	164	165	936
35°	1954	972	194	116	112	1198
45°	1139	599	104	68	68	875
55°	342	222	46	29	25	326
65°	72	49	11	2	1	78
75°	7	4	2	1	1	10
85°	2	2	2	1	0	2
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6
2.5°	450.8	445.1	445.1	446.7	451.6	447.5	444.3	441.0	444.3	436.9	439.4
5°	574.5	573.6	573.6	567.1	572.8	573.6	567.1	561.4	563.1	552.5	552.5
7.5°	737.2	732.3	730.7	721.7	728.2	727.4	716.9	707.1	707.1	690.0	685.9
10°	919.5	913.0	909.7	898.3	904.0	900.7	885.3	870.6	866.6	842.2	833.2
12.5°	1120.4	1116.4	1111.5	1096.8	1101.7	1095.2	1073.2	1052.1	1043.1	1010.6	995.1
15°	1333.6	1340.1	1332.0	1314.9	1318.2	1306.8	1278.3	1249.0	1235.2	1191.2	1168.4
17.5°	1553.3	1561.5	1552.5	1533.0	1532.2	1516.7	1477.6	1441.8	1421.5	1365.4	1335.3
20°	1762.4	1764.9	1753.5	1732.3	1727.4	1706.3	1659.1	1608.6	1589.1	1520.0	1481.7
22.5°	1926.8	1935.7	1921.9	1906.5	1891.0	1864.1	1808.8	1753.5	1725.8	1646.9	1600.5
25°	2046.4	2066.8	2050.5	2032.6	2015.5	1983.8	1921.9	1862.5	1828.3	1740.5	1687.6
27.5°	2125.3	2144.9	2127.0	2106.6	2088.7	2052.1	1984.6	1927.6	1886.1	1790.1	1733.1
30°	2127.8	2151.4	2132.7	2110.7	2093.6	2057.0	1987.8	1929.2	1882.9	1786.8	1727.4
32.5°	2069.2	2087.9	2069.2	2050.5	2030.9	1996.0	1926.8	1870.7	1821.8	1729.9	1670.5
35°	1953.6	1969.9	1951.2	1929.2	1915.4	1884.5	1818.6	1764.9	1716.1	1631.4	1579.4
37.5°	1794.2	1808.8	1791.7	1779.5	1759.2	1731.5	1671.3	1623.3	1576.9	1500.4	1454.0
40°	1582.6	1613.5	1597.3	1589.1	1570.4	1546.8	1493.9	1451.6	1409.3	1342.6	1304.3
42.5°	1371.1	1400.3	1385.7	1380.0	1363.7	1343.4	1299.4	1263.6	1224.6	1169.3	1136.7
45°	1139.2	1170.1	1156.2	1153.8	1140.0	1124.5	1077.3	1058.6	1024.4	972.3	956.9
47.5°	921.1	926.8	913.8	914.6	904.8	894.2	856.0	844.6	827.5	787.6	769.7
50°	686.7	690.8	680.2	683.5	677.0	670.5	644.4	638.7	628.2	601.3	590.7
52.5°	472.7	491.5	484.1	487.4	484.1	481.7	471.1	461.4	456.5	439.4	434.5
55°	341.7	343.4	337.7	340.9	338.5	337.7	331.2	325.5	323.0	312.5	310.8
57.5°	236.8	238.4	238.4	236.8	236.0	234.3	230.3	227.0	225.4	222.9	218.1
60°	157.0	163.5	161.1	162.7	161.9	161.9	158.7	156.2	155.4	150.5	150.5
62.5°	107.4	111.5	109.8	110.7	109.8	109.8	107.4	105.8	105.8	105.0	102.5
65°	71.6	74.0	72.4	73.2	73.2	73.2	71.6	70.0	70.0	69.2	67.5
67.5°	45.6	47.2	46.4	47.2	46.4	47.2	45.6	44.8	43.9	43.9	43.1
70°	27.7	28.5	27.7	28.5	27.7	27.7	26.9	26.9	26.0	25.2	25.2
72.5°	14.6	15.5	15.5	15.5	15.5	15.5	14.6	13.8	13.8	13.8	13.0
75°	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.3	6.5	6.5	6.5
77.5°	3.3	3.3	3.3	3.3	4.1	3.3	3.3	3.3	3.3	3.3	3.3
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
85°	2.4	2.4	2.4	2.4	2.4	2.4	3.3	3.3	3.3	3.3	2.4
87.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	4.1	4.1	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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6
2.5°	432.9	428.8	427.2	423.9	419.9	417.4	415.0	415.8	410.1	406.0	400.3
5°	541.9	533.0	528.1	520.8	511.8	504.5	498.0	494.7	484.1	476.8	461.4
7.5°	670.5	655.0	645.2	632.2	616.8	603.8	590.7	581.8	565.5	551.7	528.1
10°	811.2	787.6	770.6	751.0	727.4	706.3	686.7	670.5	646.1	624.9	594.0
12.5°	965.0	931.7	907.3	878.8	845.4	816.1	781.1	762.4	729.1	699.8	659.9
15°	1128.6	1084.6	1050.5	1011.4	967.5	928.4	883.7	856.0	812.1	774.6	725.0
17.5°	1285.6	1230.3	1185.5	1135.9	1081.4	1030.9	978.0	939.0	885.3	838.9	779.5
20°	1422.3	1356.4	1301.9	1241.7	1177.4	1115.6	1057.8	1005.7	943.1	888.5	821.0
22.5°	1533.8	1457.3	1394.7	1324.7	1250.6	1180.7	1114.7	1055.3	983.7	923.5	849.5
25°	1614.3	1530.5	1460.6	1383.3	1301.9	1222.1	1152.2	1087.1	1009.0	944.7	865.8
27.5°	1656.7	1568.0	1493.9	1410.9	1324.7	1241.7	1166.0	1096.8	1014.7	947.1	865.8
30°	1649.3	1559.0	1482.5	1397.1	1310.0	1227.0	1148.1	1078.9	994.3	926.0	844.6
32.5°	1593.2	1504.5	1429.6	1346.6	1261.2	1180.7	1101.7	1035.0	950.4	883.7	804.7
35°	1500.4	1416.6	1345.8	1266.9	1186.3	1110.7	1039.1	971.5	890.2	826.7	752.7
37.5°	1380.0	1303.5	1239.2	1166.0	1092.0	1023.6	952.8	895.0	822.6	763.2	690.8
40°	1236.0	1168.4	1111.5	1046.4	979.7	920.3	860.9	804.7	733.9	681.1	619.2
42.5°	1077.3	1019.5	970.7	913.8	856.0	805.5	754.3	705.5	646.9	598.9	541.1
45°	906.4	857.6	817.7	772.2	724.2	677.0	639.6	598.9	544.4	508.6	459.7
47.5°	729.9	692.4	662.3	627.3	589.1	559.8	524.0	491.5	451.6	418.2	378.4
50°	562.3	536.2	515.1	490.6	463.0	436.1	415.0	389.8	359.6	332.8	301.1
52.5°	415.8	398.7	385.7	369.4	350.7	336.9	317.3	298.6	275.8	255.5	231.1
55°	297.8	288.0	279.9	270.1	257.1	244.9	235.2	222.1	205.9	190.4	172.5
57.5°	214.0	203.4	202.6	192.0	187.1	178.2	169.2	159.5	148.1	137.5	124.5
60°	148.1	140.8	137.5	133.4	127.7	122.1	118.0	111.5	103.3	96.0	86.3
62.5°	100.1	95.2	93.6	91.9	87.1	84.6	79.7	75.7	70.0	64.3	57.8
65°	65.9	62.7	61.0	58.6	56.1	54.5	52.1	48.8	43.9	40.7	36.6
67.5°	41.5	39.1	37.4	36.6	34.2	33.4	30.9	29.3	26.0	24.4	22.0
70°	23.6	22.8	21.2	21.2	19.5	17.9	17.1	15.5	14.6	13.0	12.2
72.5°	12.2	12.2	11.4	10.6	9.8	9.8	9.0	8.1	7.3	6.5	6.5
75°	5.7	5.7	5.7	4.9	4.9	4.9	4.1	4.1	4.1	3.3	3.3
77.5°	3.3	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
85°	2.4	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4
87.5°	2.4	2.4	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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CANDELA DISTRIBUTION (continued):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6
2.5°	396.3	394.6	390.6	389.8	380.8	379.2	374.3	367.0	361.3	359.6	361.3
5°	455.7	448.3	436.1	433.7	419.0	414.2	403.6	392.2	382.4	376.7	374.3
7.5°	516.7	504.5	486.6	477.6	456.5	445.9	430.4	414.2	398.7	388.1	381.6
10°	575.3	555.7	523.2	515.9	489.8	472.7	451.6	429.6	410.1	395.4	384.9
12.5°	630.6	607.0	573.6	553.3	519.1	497.2	470.3	443.5	419.0	399.5	384.9
15°	687.6	656.6	615.1	586.7	547.6	518.3	485.8	454.8	426.4	402.0	384.1
17.5°	734.8	696.5	647.7	613.5	567.9	533.0	495.5	459.7	428.8	401.1	380.8
20°	769.7	725.0	669.7	629.8	579.3	540.3	499.6	460.5	426.4	396.3	374.3
22.5°	793.3	742.1	681.9	637.9	585.0	542.7	498.8	458.1	423.1	392.2	368.6
25°	804.7	749.4	686.7	639.6	584.2	540.3	494.7	453.2	417.4	385.7	362.9
27.5°	803.1	744.5	680.2	630.6	574.5	528.9	482.5	441.0	406.0	374.3	350.7
30°	779.5	721.7	656.6	606.2	550.9	505.3	458.9	418.2	384.1	351.5	329.5
32.5°	742.9	683.5	620.0	563.9	516.7	471.9	428.0	386.5	354.0	322.2	301.1
35°	693.3	636.3	575.3	527.3	476.0	432.9	390.6	351.5	320.6	289.7	270.1
37.5°	635.5	581.0	524.8	475.2	430.4	390.6	350.7	315.7	284.8	257.1	238.4
40°	568.8	518.3	467.1	424.7	380.8	344.2	307.6	273.4	248.2	222.9	206.7
42.5°	496.3	451.6	405.2	368.6	328.7	296.2	261.2	236.8	212.4	189.6	176.6
45°	420.7	381.6	342.6	309.2	276.7	248.2	218.1	195.3	176.6	157.9	146.5
47.5°	345.8	312.5	280.7	253.9	225.4	201.8	180.6	160.3	142.4	126.9	118.0
50°	270.1	248.2	222.9	201.0	178.2	158.7	139.1	124.5	110.7	99.3	93.6
52.5°	210.7	190.4	170.1	152.2	135.9	119.6	106.6	94.4	84.6	77.3	73.2
55°	157.0	140.8	125.3	111.5	98.5	87.9	78.9	71.6	65.1	59.4	57.8
57.5°	112.3	100.1	89.5	78.9	70.8	64.3	58.6	53.7	49.6	45.6	44.8
60°	78.1	69.2	62.7	56.1	51.3	46.4	43.1	39.9	36.6	34.2	33.4
62.5°	52.1	47.2	42.3	39.1	36.6	32.5	30.9	28.5	26.9	24.4	23.6
65°	33.4	30.1	27.7	25.2	23.6	22.0	20.3	18.7	17.1	15.5	15.5
67.5°	20.3	17.9	17.1	15.5	13.8	13.0	12.2	10.6	9.8	9.8	9.0
70°	11.4	9.8	9.0	8.1	7.3	7.3	6.5	5.7	5.7	4.9	4.9
72.5°	5.7	5.7	4.9	4.9	4.1	4.1	3.3	3.3	3.3	2.4	2.4
75°	3.3	3.3	2.4	2.4	2.4	2.4	2.4	2.4	1.6	1.6	1.6
77.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
80°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
82.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
85°	2.4	2.4	2.4	2.4	1.6	1.6	1.6	1.6	1.6	1.6	1.6
87.5°	2.4	2.4	2.4	2.4	2.4	1.6	1.6	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



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CATALOG NUMBER: LDA4A18930D010TE LAR25NF 4LLWW1

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	346.6	346.6	346.6	346.6	346.6	346.6	346.6	346.6
2.5°	354.8	346.6	345.0	345.0	310.8	290.5	275.0	271.0
5°	362.9	351.5	345.8	342.6	281.5	245.7	222.1	215.6
7.5°	367.0	350.7	341.7	334.4	253.1	206.7	181.5	174.1
10°	365.3	345.8	333.6	323.8	227.0	176.6	150.5	144.0
12.5°	362.1	340.1	324.7	312.5	205.0	153.0	129.4	122.9
15°	358.8	333.6	315.7	301.1	187.1	136.7	115.5	109.8
17.5°	352.3	326.3	305.9	290.5	175.8	130.2	112.3	109.0
20°	345.0	318.1	297.0	281.5	172.5	136.7	126.1	126.1
22.5°	340.1	312.5	292.1	276.7	178.2	152.2	148.1	150.5
25°	333.6	307.6	287.2	272.6	183.9	164.4	161.9	165.2
27.5°	323.0	297.0	277.5	262.8	180.6	162.7	160.3	161.9
30°	301.9	276.7	259.6	244.1	167.6	150.5	146.5	147.3
32.5°	275.0	250.6	234.3	219.7	148.9	132.6	128.6	128.6
35°	245.7	222.9	207.5	194.5	131.0	116.4	112.3	111.5
37.5°	216.4	195.3	182.3	170.1	114.7	101.7	97.6	96.8
40°	187.1	168.4	156.2	146.5	100.9	90.3	86.3	85.4
42.5°	159.5	143.2	132.6	124.5	87.9	79.7	76.5	75.7
45°	131.8	118.8	110.7	104.2	76.5	68.3	67.5	67.5
47.5°	106.6	96.0	90.3	86.3	65.1	58.6	57.8	58.6
50°	85.4	78.1	74.0	70.8	55.3	49.6	47.2	47.2
52.5°	67.5	62.7	60.2	57.8	45.6	39.9	36.6	35.8
55°	53.7	49.6	48.0	46.4	35.8	29.3	26.0	25.2
57.5°	42.3	39.1	37.4	35.8	26.9	20.3	17.1	16.3
60°	31.7	29.3	27.7	26.9	18.7	12.2	9.8	9.0
62.5°	22.8	21.2	19.5	18.7	11.4	6.5	4.1	3.3
65°	13.8	13.8	12.2	11.4	5.7	2.4	1.6	0.8
67.5°	8.1	7.3	6.5	6.5	2.4	1.6	0.8	0.8
70°	4.1	4.1	3.3	3.3	1.6	0.8	0.8	0.8
72.5°	2.4	2.4	2.4	1.6	1.6	0.8	0.8	0.8
75°	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.8
77.5°	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.0
80°	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.0
82.5°	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.8
85°	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.0
87.5°	1.6	1.6	1.6	1.6	1.6	0.8	0.8	0.8
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)