

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: P1192176

Luminaire Tested: **LDA6A40927D010TE LARH30NF 6LAL1LI 30°**

Issue Date: 3/3/2020

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-41-14
Report Number: P1192176
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26674)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA6A40927D010TE LARH30NF 6LAL1LI 30°
Description: PORTFOLIO 6" Lensed Adjustable, Self-flanged, 30° Narrow Flood, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

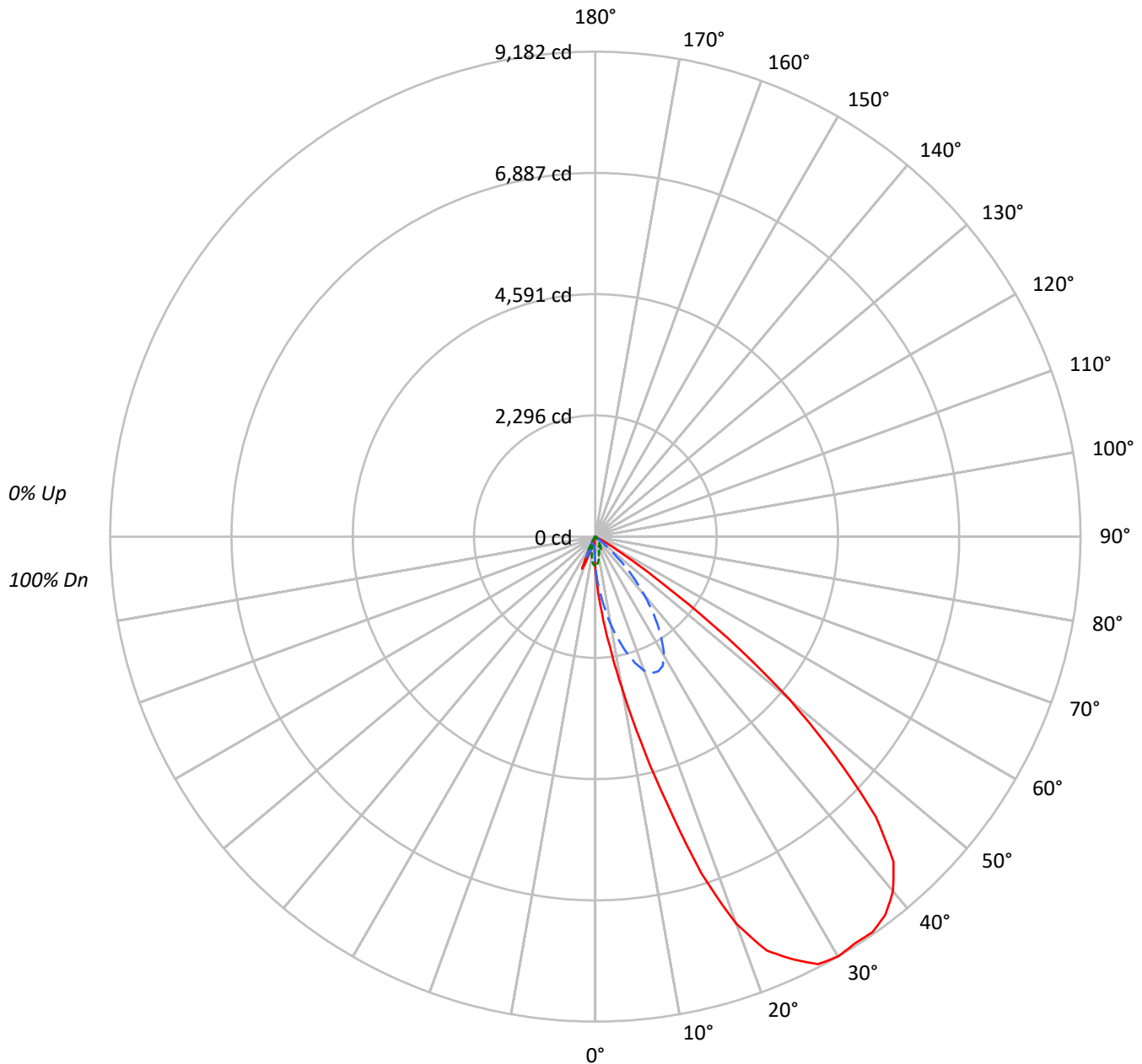
Lumens per Lamp: N/A
Luminaire Lumens: 3577.4 lumens
Efficiency: N/A
Efficacy: 71.8 lumens/watt
Spacing Criteria (0/90/45): 2.68 / 0.47 / 1.42
Luminous Opening: Circular (Dia: 0.5' x H: 0')
CIE Type: Direct

Input Watts (W): 49.8
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					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10		50	30	10			50	30	10			50
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111			106	106	106			102
1	112	109	106	103	110	107	104	101		102	100	98			99	97	95			95
2	105	99	94	89	102	97	92	88		94	90	86			90	87	85			88
3	98	89	83	78	95	88	82	78		85	80	76			83	79	75			80
4	91	81	74	69	89	80	73	68		78	72	67			75	71	67			73
5	84	74	66	61	82	73	66	61		71	65	60			69	64	59			67
6	78	67	59	54	77	66	59	54		65	58	53			63	57	53			61
7	73	61	54	48	71	60	53	48		59	53	48			58	52	47			56
8	68	56	48	43	66	55	48	43		54	48	43			53	47	43			52
9	63	51	44	39	62	51	44	39		50	43	39			49	43	39			48
10	59	47	40	35	58	47	40	35		46	39	35			45	39	35			44

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	30902	30902	30902
5°	81444	28192	9091
10°	162606	21604	3607
15°	296035	15170	3944
20°	455203	10886	24905
25°	533855	16259	20608
30°	581254	10210	6001
35°	611764	4236	2483
40°	627304	1868	1417
45°	582316	1225	1047
50°	408447	947	478
55°	149385	679	306
60°	31544	691	164
65°	2672	817	195
70°	898	1010	385
75°	169	1334	678
80°	253	1989	1010
85°	0	3963	943



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	70.9	2.0
10°-20°	390.0	10.9
20°-30°	942.5	26.3
30°-40°	1108.0	31.0
40°-50°	837.0	23.4
50°-60°	210.0	5.9
60°-70°	10.2	0.3
70°-80°	4.8	0.1
80°-90°	3.9	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°	1403.4	39.2
0°-40°	2511.5	70.2
0°-60°	3558.5	99.5
0°-90°	3577.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3577.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	564	564	564	564	564	
5°	1480	1074	512	217	165	184
15°	5216	2263	267	72	70	1579
25°	8826	2815	269	373	341	4060
35°	9141	2074	63	45	37	5692
45°	7511	815	16	17	14	5534
55°	1563	23	7	6	3	1729
65°	21	6	6	6	2	56
75°	1	4	6	6	3	2
85°	0	4	6	5	2	0
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°	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7
2.5°	983.4	967.7	956.6	937.6	928.1	932.1	912.3	885.4	877.6	853.8	812.7
5°	1480.0	1463.3	1437.3	1396.9	1366.9	1362.2	1323.4	1258.6	1217.4	1156.5	1074.4
7.5°	2089.5	2075.3	2031.7	1971.7	1921.1	1902.1	1845.1	1731.4	1640.4	1518.6	1377.2
10°	2921.1	2865.8	2784.3	2662.6	2546.4	2492.6	2392.2	2204.0	2056.2	1889.5	1697.3
12.5°	3963.9	3865.9	3733.8	3551.2	3351.2	3250.8	3091.1	2803.4	2544.8	2258.7	1978.8
15°	5216.1	5117.3	4926.0	4642.9	4321.2	4160.0	3924.3	3470.6	3085.5	2665.8	2262.6
17.5°	6693.7	6532.4	6277.8	5867.6	5369.5	5116.5	4782.9	4154.4	3580.4	3032.5	2510.8
20°	7802.8	7685.1	7443.9	7014.7	6420.9	6095.2	5647.0	4781.3	4040.5	3325.9	2698.9
22.5°	8483.5	8377.6	8156.2	7797.3	7251.8	6890.5	6385.3	5331.5	4397.9	3529.1	2793.1
25°	8825.9	8749.9	8595.7	8282.7	7806.0	7443.1	6932.5	5738.7	4639.9	3639.0	2815.2
27.5°	9127.1	8999.8	8749.1	8535.7	8113.5	7744.3	7260.5	5941.0	4724.4	3626.3	2759.0
30°	9182.4	9109.7	8912.0	8606.9	8213.9	7840.8	7330.9	5911.8	4628.7	3479.3	2606.5
32.5°	9135.0	9071.7	8922.2	8589.5	8149.9	7738.0	7178.3	5671.5	4348.1	3206.5	2348.8
35°	9141.3	9040.9	8779.2	8494.6	7945.9	7462.1	6805.1	5232.0	3955.2	2852.3	2074.4
37.5°	9020.3	8855.1	8639.3	8272.4	7531.7	6931.6	6180.6	4665.1	3482.4	2491.0	1754.2
40°	8765.8	8640.1	8353.1	7789.4	6825.7	6071.5	5377.4	4014.5	2966.2	2096.6	1430.2
42.5°	8349.9	8199.7	7798.9	6949.0	5803.5	5145.8	4521.2	3348.9	2458.6	1714.7	1122.6
45°	7511.1	7281.9	6757.7	5744.2	4767.1	4208.9	3699.8	2730.6	1993.0	1341.6	815.0
47.5°	6171.1	5975.9	5421.7	4575.8	3806.5	3374.9	2940.9	2153.5	1483.0	862.5	419.0
50°	4789.2	4635.0	4212.1	3469.7	2827.8	2408.9	2067.3	1374.8	790.5	396.9	188.1
52.5°	3151.2	3053.9	2691.0	2166.1	1623.8	1324.9	1076.0	596.8	368.4	176.3	64.8
55°	1563.0	1438.0	1264.9	937.6	678.3	548.7	465.7	294.1	152.6	50.6	22.9
57.5°	637.2	609.5	548.7	423.7	325.7	275.1	219.7	91.7	33.9	20.6	14.2
60°	287.7	275.1	238.8	167.6	90.9	56.2	39.5	25.3	17.4	12.7	9.5
62.5°	50.6	46.6	41.1	31.6	25.3	22.1	18.9	14.2	11.1	8.7	7.1
65°	20.6	20.6	18.9	16.6	13.5	12.7	11.1	8.7	7.1	6.3	5.6
67.5°	11.1	10.3	10.3	8.7	7.9	7.1	6.3	5.6	5.6	4.7	4.7
70°	5.6	5.6	5.6	4.7	3.9	3.9	3.9	3.9	3.9	3.9	3.9
72.5°	3.2	3.2	3.2	3.2	3.2	3.2	2.4	2.4	2.4	3.2	3.2
75°	0.8	0.8	0.8	0.8	1.5	1.5	1.5	2.4	3.2	3.2	3.9
77.5°	0.8	0.8	0.8	0.8	1.5	1.5	1.5	2.4	3.2	3.2	3.9
80°	0.8	0.8	0.8	0.8	1.5	1.5	1.5	2.4	3.2	3.2	3.9
82.5°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.4	2.4	3.2	3.9
85°	0.0	0.0	0.8	0.8	1.5	1.5	1.5	2.4	2.4	3.2	3.9
87.5°	0.0	0.0	0.8	0.8	0.8	1.5	1.5	2.4	2.4	3.2	3.9
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°	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7
2.5°	811.1	770.0	738.4	708.3	701.3	676.8	653.8	614.2	578.7	545.5	507.6
5°	1042.8	962.1	895.0	829.3	807.9	766.9	711.5	640.4	573.9	512.3	447.5
7.5°	1294.9	1158.2	1038.8	928.1	889.4	830.9	741.6	640.4	544.7	456.1	377.1
10°	1542.4	1338.4	1158.2	998.4	940.0	864.1	741.6	612.7	491.0	388.1	309.9
12.5°	1781.2	1501.3	1257.8	1046.7	970.0	875.2	721.8	564.4	423.0	321.8	256.1
15°	1967.8	1638.8	1328.1	1065.7	970.0	860.2	675.9	497.3	354.2	267.3	208.7
17.5°	2107.7	1720.3	1351.9	1047.5	936.8	813.5	606.4	418.2	291.7	221.4	165.2
20°	2189.0	1740.8	1327.3	994.5	873.6	743.1	520.2	344.7	247.4	186.6	133.6
22.5°	2208.1	1712.3	1270.4	926.5	801.6	669.6	444.3	308.3	238.8	190.5	166.9
25°	2186.7	1654.6	1195.3	857.7	733.7	603.2	416.6	332.1	286.2	268.8	287.7
27.5°	2102.1	1547.1	1102.8	781.1	656.2	534.4	395.3	334.4	287.7	279.9	271.2
30°	1951.1	1385.0	960.6	638.8	506.7	405.6	280.6	199.3	158.9	161.3	159.7
32.5°	1714.7	1149.4	751.9	446.7	348.6	274.3	185.8	117.8	110.7	110.7	109.1
35°	1454.7	933.6	565.3	313.8	242.7	192.9	110.7	86.2	72.7	63.3	56.9
37.5°	1189.8	726.6	389.8	211.9	154.2	98.9	53.0	43.5	38.8	36.4	35.6
40°	921.0	511.5	249.0	116.2	68.0	43.5	33.9	29.2	26.8	26.1	26.1
42.5°	681.5	329.7	134.3	45.9	36.4	30.0	24.5	21.4	20.6	20.6	19.8
45°	410.3	165.2	50.6	28.5	23.8	21.4	18.2	16.6	15.8	15.8	16.6
47.5°	189.7	61.6	27.7	18.9	17.4	15.8	14.2	13.5	13.5	13.5	14.2
50°	68.8	26.8	17.4	13.5	12.7	11.8	11.1	10.3	10.3	11.1	11.1
52.5°	26.1	16.6	12.7	10.3	9.5	9.5	8.7	8.7	8.7	8.7	8.7
55°	15.8	11.8	9.5	7.9	7.9	7.1	7.1	7.1	7.1	7.1	7.1
57.5°	10.3	8.7	7.1	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
60°	7.9	6.3	5.6	5.6	5.6	5.6	5.6	6.3	6.3	6.3	6.3
62.5°	6.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	6.3	6.3	6.3
65°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	6.3	6.3	6.3	7.1
67.5°	4.7	4.7	4.7	4.7	4.7	5.6	5.6	5.6	6.3	6.3	6.3
70°	3.9	3.9	4.7	4.7	4.7	5.6	5.6	5.6	6.3	6.3	6.3
72.5°	3.9	4.7	4.7	4.7	4.7	5.6	5.6	5.6	6.3	6.3	6.3
75°	3.9	4.7	4.7	4.7	5.6	5.6	5.6	5.6	6.3	6.3	6.3
77.5°	3.9	4.7	4.7	4.7	5.6	5.6	5.6	6.3	6.3	6.3	7.1
80°	3.9	4.7	4.7	5.6	5.6	5.6	5.6	6.3	6.3	6.3	7.1
82.5°	3.9	4.7	4.7	5.6	5.6	5.6	6.3	6.3	6.3	7.1	7.1
85°	3.9	4.7	4.7	5.6	5.6	5.6	6.3	6.3	6.3	6.3	7.1
87.5°	3.9	4.7	4.7	5.6	5.6	5.6	5.6	6.3	6.3	6.3	6.3
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°	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7
2.5°	487.0	454.6	431.6	411.1	403.1	385.0	365.3	342.3	323.3	321.8	305.9
5°	404.0	358.9	326.5	305.9	295.6	276.7	253.8	238.8	217.4	211.1	195.2
7.5°	326.5	284.6	254.6	235.6	223.7	200.8	174.7	158.1	140.7	127.2	109.9
10°	265.6	225.3	192.9	173.9	162.0	137.5	110.7	91.7	75.9	72.7	71.2
12.5°	213.5	172.3	139.9	119.3	106.8	83.8	76.6	73.6	71.2	68.8	68.8
15°	166.0	124.2	89.3	81.5	79.1	76.6	75.1	73.6	71.9	71.2	71.9
17.5°	121.0	87.7	83.8	83.0	81.5	81.5	83.0	83.8	85.4	86.9	89.3
20°	106.8	107.5	116.2	122.5	120.1	132.0	148.6	162.0	194.5	214.3	241.1
22.5°	191.3	219.7	260.1	284.6	298.0	337.6	381.0	446.7	479.9	527.3	570.0
25°	327.3	360.4	395.3	404.8	411.9	415.8	410.3	380.3	373.1	359.7	355.7
27.5°	245.0	229.3	234.8	237.2	234.8	231.7	222.2	205.5	201.6	195.2	196.9
30°	144.6	139.9	146.3	145.5	145.5	145.5	142.3	128.9	122.5	115.4	110.7
32.5°	106.8	98.0	90.9	84.6	82.2	78.3	75.9	70.4	68.0	64.8	64.8
35°	53.0	50.6	50.6	49.0	48.2	49.0	49.0	46.6	45.1	44.2	44.2
37.5°	34.8	34.8	35.6	34.8	34.8	34.8	34.8	33.9	33.2	32.4	32.4
40°	26.1	26.1	26.8	26.8	26.1	26.1	26.1	25.3	25.3	25.3	25.3
42.5°	20.6	20.6	20.6	20.6	19.8	20.6	20.6	20.6	19.8	19.8	18.9
45°	17.4	16.6	16.6	16.6	16.6	16.6	17.4	16.6	16.6	15.8	15.8
47.5°	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	14.2	13.5	13.5
50°	11.1	11.1	11.1	11.1	11.1	10.3	10.3	9.5	9.5	8.7	8.7
52.5°	8.7	8.7	7.9	7.9	7.9	7.9	7.9	7.9	7.1	7.1	7.1
55°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	6.3	5.6	5.6
57.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.6	5.6	4.7
60°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.6	4.7	4.7	4.7
62.5°	6.3	6.3	6.3	6.3	6.3	6.3	6.3	5.6	4.7	4.7	3.9
65°	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.6	5.6	4.7	4.7
67.5°	7.1	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.6	5.6	4.7
70°	7.1	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.6	5.6	4.7
72.5°	7.1	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.6	5.6	4.7
75°	7.1	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.6	5.6	4.7
77.5°	7.1	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.6	5.6	4.7
80°	7.1	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.6	5.6	4.7
82.5°	7.1	7.1	7.1	7.1	7.1	6.3	6.3	6.3	5.6	5.6	4.7
85°	7.1	7.1	6.3	6.3	6.3	6.3	6.3	5.6	4.7	4.7	3.9
87.5°	6.3	6.3	6.3	6.3	6.3	5.6	5.6	4.7	3.9	3.9	3.2
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: LDA6A40927D010TE LARH30NF 6LAL1LI 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	563.7	563.7	563.7	563.7	563.7	563.7	563.7	563.7
2.5°	302.7	291.7	289.4	292.6	279.9	279.9	279.9	285.4
5°	189.0	177.9	174.7	175.5	165.2	158.1	162.0	165.2
7.5°	102.8	90.9	86.9	86.9	76.6	72.7	73.6	75.1
10°	68.8	67.2	67.2	66.5	64.8	64.1	64.8	64.8
12.5°	66.5	65.6	65.6	64.8	64.8	64.1	64.1	64.8
15°	69.5	69.5	69.5	68.8	68.8	68.0	69.5	69.5
17.5°	88.6	90.1	93.3	94.8	98.0	94.8	100.4	99.6
20°	260.1	286.2	334.4	352.6	404.8	379.5	434.0	426.9
22.5°	588.9	607.9	615.9	619.8	620.6	645.9	649.8	658.6
25°	347.8	343.1	339.2	339.2	325.0	341.5	338.3	340.7
27.5°	185.8	184.2	180.2	181.9	174.7	180.2	181.9	181.9
30°	105.1	101.9	98.9	98.9	92.5	95.7	94.8	94.8
32.5°	60.9	59.3	57.7	56.9	55.3	55.3	54.5	54.5
35°	41.9	41.1	40.3	39.5	38.0	37.1	37.1	37.1
37.5°	30.9	30.0	29.2	29.2	28.5	26.8	26.8	26.8
40°	23.8	22.9	22.1	22.1	21.4	19.8	19.8	19.8
42.5°	18.2	17.4	16.6	15.8	15.8	15.0	14.2	14.2
45°	15.0	15.0	14.2	14.2	13.5	13.5	13.5	13.5
47.5°	12.7	12.7	11.8	11.8	11.8	11.1	11.1	10.3
50°	7.9	7.1	7.1	6.3	6.3	5.6	5.6	5.6
52.5°	6.3	5.6	5.6	4.7	4.7	3.9	3.9	3.9
55°	4.7	4.7	3.9	3.9	3.9	3.2	3.2	3.2
57.5°	3.9	3.9	3.2	3.2	3.2	2.4	2.4	2.4
60°	3.9	3.2	3.2	2.4	2.4	2.4	1.5	1.5
62.5°	3.9	3.2	3.2	2.4	2.4	1.5	1.5	1.5
65°	3.9	3.2	3.2	2.4	2.4	2.4	2.4	1.5
67.5°	3.9	3.9	3.2	3.2	3.2	2.4	2.4	2.4
70°	4.7	3.9	3.9	3.2	3.2	3.2	3.2	2.4
72.5°	4.7	3.9	3.9	3.9	3.2	3.2	3.2	3.2
75°	4.7	3.9	3.9	3.9	3.2	3.2	3.2	3.2
77.5°	4.7	3.9	3.9	3.9	3.2	3.2	3.2	3.2
80°	4.7	3.9	3.9	3.9	3.2	3.2	3.2	3.2
82.5°	3.9	3.9	3.9	3.2	3.2	3.2	3.2	3.2
85°	3.2	3.2	3.2	2.4	2.4	2.4	2.4	1.5
87.5°	2.4	2.4	1.5	1.5	0.8	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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Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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— 0°-180° - - 45°-225° - - - 90°-270°

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(END OF REPORT)