

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: P1219483

Luminaire Tested: **LDSQA4A15930D010TE LAR35FL 4LSQAL1H 30°**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: P1219483
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26804)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A15930D010TE LAR35FL 4LSQAL1H 30°
Description: PORTFOLIO 4" SQUARE LENSED ADJUSTABLE, SELF-FLANGED, 35° FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

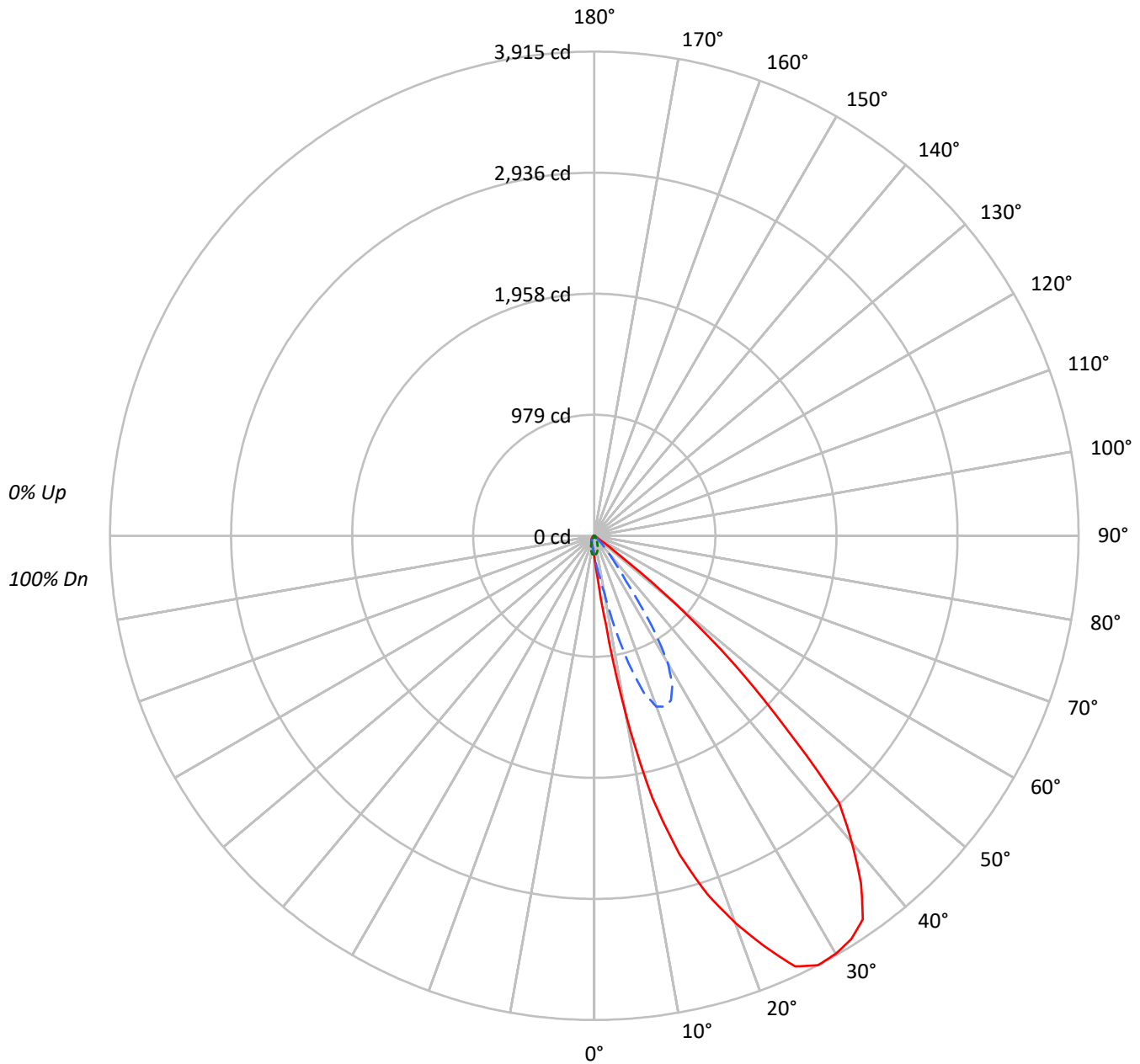
Lumens per Lamp: N/A
Luminaire Lumens: 1303.8 lumens
Efficiency: N/A
Efficacy: 63.9 lumens/watt
Spacing Criteria (0/90/45): 2.46 / 0.61 / 1.2
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 20.4
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

TEST NUMBER: P1219483

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Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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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	30	10
RCR																				
0	119	119	119	119	116	116	116	116		111	111	111		106	106	106		102	102	102
1	112	109	106	104	110	107	104	102		103	101	99		99	97	96		96	94	93
2	106	100	95	91	103	98	94	90		95	91	88		92	89	86		89	86	84
3	99	91	85	80	97	90	84	80		87	82	78		84	80	77		82	79	76
4	92	83	77	71	90	82	76	71		80	74	70		78	73	69		76	72	68
5	86	76	69	64	84	75	68	64		73	67	63		71	66	62		70	65	62
6	80	70	62	57	79	69	62	57		67	61	57		66	60	56		64	59	56
7	75	64	57	52	74	63	56	51		62	56	51		60	55	51		59	54	50
8	70	59	52	47	69	58	51	46		57	51	46		56	50	46		55	50	46
9	66	54	47	42	64	54	47	42		53	46	42		52	46	42		51	45	42
10	62	50	43	38	60	50	43	38		49	42	38		48	42	38		47	42	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	15616	15616	15616
5°	36603	14742	10308
10°	144623	12955	8588
15°	267651	10380	7532
20°	343206	7557	6814
25°	410629	5355	6039
30°	436631	3524	5313
35°	447496	2129	4636
40°	409635	1378	3984
45°	295583	959	3261
50°	129039	769	2713
55°	8901	659	2280
60°	1608	620	1860
65°	596	596	1307
70°	538	736	906
75°	487	973	973
80°	0	1450	1060
85°	0	2890	667

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.5	1.8
10°-20°	184.6	14.2
20°-30°	386.4	29.6
30°-40°	430.1	33.0
40°-50°	246.9	18.9
50°-60°	24.7	1.9
60°-70°	3.9	0.3
70°-80°	2.5	0.2
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°	594.4	45.6
0°-40°	1024.5	78.6
0°-60°	1296.0	99.4
0°-90°	1303.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1303.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	161	161	161	161	161	
5°	376	260	152	110	106	69
15°	2669	1066	104	73	75	754
25°	3842	1466	50	44	56	1740
35°	3784	448	18	26	39	2310
45°	2158	54	7	14	24	1647
55°	53	8	4	8	14	157
65°	3	2	3	5	6	3
75°	1	1	3	3	3	1
85°	0	1	3	2	1	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°	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2
2.5°	240.9	235.7	230.6	227.4	224.1	228.7	225.4	224.1	215.1	210.7	206.8
5°	376.4	366.8	352.6	341.1	329.5	332.0	323.0	312.1	289.7	273.6	259.5
7.5°	726.5	702.7	659.0	616.6	574.2	566.5	538.3	489.5	426.5	379.0	337.9
10°	1470.2	1398.3	1318.0	1231.3	1129.8	1101.6	1031.6	899.2	754.7	589.6	470.2
12.5°	2170.4	2137.6	2043.2	1930.8	1820.9	1753.5	1680.9	1462.5	1233.2	967.3	745.1
15°	2668.7	2648.8	2566.0	2463.9	2345.7	2302.0	2213.3	1995.6	1706.0	1388.0	1065.6
17.5°	3038.1	3004.1	2917.3	2806.3	2666.2	2628.9	2523.0	2306.5	2005.9	1686.7	1329.0
20°	3329.1	3307.9	3195.5	3061.9	2894.3	2849.3	2725.3	2499.8	2173.0	1833.8	1469.6
22.5°	3590.5	3554.5	3416.4	3257.1	3065.7	3017.5	2879.4	2632.2	2280.9	1903.2	1494.6
25°	3841.6	3787.0	3619.4	3410.6	3185.8	3120.3	2968.7	2706.7	2320.7	1908.9	1466.4
27.5°	3914.9	3887.2	3732.4	3489.7	3229.5	3155.6	2997.6	2723.4	2305.9	1856.2	1364.9
30°	3903.3	3880.2	3751.1	3497.4	3221.9	3144.1	2983.6	2672.0	2219.8	1718.8	1185.7
32.5°	3866.6	3857.7	3701.6	3430.5	3149.9	3065.1	2891.7	2544.2	2058.6	1509.5	866.4
35°	3783.9	3748.5	3553.9	3298.9	3029.1	2935.9	2740.1	2361.2	1846.0	1099.0	447.7
37.5°	3541.0	3513.4	3359.9	3136.4	2873.7	2754.2	2547.4	2124.7	1429.2	625.0	267.8
40°	3239.2	3225.6	3104.9	2905.2	2624.5	2489.6	2264.8	1738.7	872.3	355.2	176.6
42.5°	2929.6	2925.7	2796.7	2587.9	2283.4	2128.6	1895.5	1172.9	463.7	214.5	102.2
45°	2157.5	2180.7	2090.7	1965.4	1732.9	1620.5	1318.0	604.4	267.2	118.8	54.0
47.5°	1513.3	1487.6	1328.3	1109.3	896.6	759.2	574.2	285.8	142.6	62.3	30.8
50°	856.2	860.7	716.9	580.0	380.3	301.3	228.7	143.8	68.7	32.8	18.6
52.5°	223.5	233.8	201.7	173.4	147.7	120.1	97.0	62.3	32.8	19.3	12.2
55°	52.7	54.5	50.8	47.5	44.9	39.8	35.3	26.9	18.0	12.2	7.7
57.5°	18.6	19.3	18.6	18.6	18.0	17.3	16.0	14.2	10.9	7.7	5.1
60°	8.3	9.0	8.3	9.0	9.0	9.0	9.0	9.0	6.4	4.5	3.2
62.5°	3.9	3.9	3.9	3.9	4.5	4.5	5.1	5.1	3.9	3.2	2.6
65°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.9
67.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
70°	1.9	1.9	1.9	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.9
72.5°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
75°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
77.5°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.3	1.3	1.3	1.3
80°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.3
82.5°	0.0	0.0	0.0	0.6	0.6	0.6	0.6	0.6	1.3	1.3	1.3
85°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	1.3	1.3	1.3
87.5°	0.0	0.0	0.0	0.0	0.6	0.6	0.6	0.6	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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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2
2.5°	199.8	199.1	192.1	186.9	184.3	180.5	176.0	169.6	162.5	156.1	153.5
5°	242.7	234.4	219.7	207.5	201.7	195.9	185.6	174.0	163.2	151.6	145.8
7.5°	298.7	274.2	245.3	222.8	213.2	203.6	188.8	172.8	158.0	142.6	134.2
10°	375.1	318.6	268.5	232.6	218.4	205.5	184.3	164.4	148.4	131.7	120.8
12.5°	536.3	396.3	292.9	237.0	218.4	201.7	176.0	152.9	134.8	117.5	107.2
15°	772.7	535.0	346.2	241.5	213.8	192.7	163.2	138.1	118.8	103.5	93.8
17.5°	963.5	662.9	412.3	253.0	208.1	180.5	146.4	120.1	102.2	88.0	80.3
20°	1059.8	716.9	442.5	255.0	193.9	161.2	126.5	101.5	85.4	73.3	66.8
22.5°	1057.9	699.4	415.6	223.5	170.2	139.4	106.6	83.5	70.7	61.0	55.8
25°	991.1	619.1	346.8	178.6	137.4	115.6	86.7	67.4	57.1	50.1	45.6
27.5°	865.9	502.9	258.9	132.4	107.2	91.2	67.4	54.0	45.6	40.5	37.2
30°	679.5	336.6	163.2	98.3	81.6	68.7	52.1	41.8	35.9	31.5	29.5
32.5°	374.4	175.3	109.8	72.0	59.7	50.1	38.5	30.2	26.3	23.2	22.5
35°	206.8	123.9	78.4	48.2	39.8	34.1	26.3	21.9	19.3	18.0	18.0
37.5°	146.4	79.7	46.9	30.2	25.7	22.5	18.0	15.4	14.8	14.2	14.2
40°	88.0	46.9	28.2	19.9	17.3	15.4	13.5	11.6	11.6	10.9	11.6
42.5°	48.2	28.2	19.3	14.2	12.2	11.6	9.6	9.0	9.0	9.0	9.6
45°	28.9	18.6	13.5	10.3	9.0	7.7	7.0	6.4	7.0	7.0	7.7
47.5°	18.6	13.5	9.0	6.4	5.7	5.1	4.5	5.1	5.1	5.7	6.4
50°	12.9	8.3	5.7	3.9	3.9	3.2	3.9	3.9	4.5	5.1	5.7
52.5°	8.3	5.7	3.9	3.2	2.6	2.6	2.6	3.2	3.9	4.5	5.1
55°	5.1	3.9	3.2	2.6	2.6	2.6	2.6	2.6	3.2	3.9	4.5
57.5°	3.9	3.2	2.6	1.9	1.9	1.9	2.6	2.6	3.2	3.2	3.9
60°	2.6	2.6	1.9	1.9	1.9	1.9	1.9	2.6	2.6	3.2	3.9
62.5°	2.6	2.6	1.9	1.9	1.9	1.9	2.6	2.6	2.6	3.2	3.2
65°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	2.6	3.2
67.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	3.2
70°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	3.2
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	2.6
75°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	2.6	2.6
77.5°	1.3	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	2.6	2.6
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	2.6	2.6
82.5°	1.3	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	2.6	2.6
85°	1.3	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	2.6	2.6
87.5°	1.3	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.6	2.6	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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2
2.5°	150.3	145.8	142.0	143.3	140.7	136.1	134.8	131.7	127.8	127.2	127.2
5°	139.4	132.4	126.5	125.9	123.4	118.2	116.9	113.7	110.5	109.8	109.2
7.5°	125.9	118.2	113.1	111.8	109.8	105.3	104.7	101.5	99.6	98.3	98.3
10°	112.4	105.3	100.9	100.2	98.9	95.0	94.4	91.9	89.9	89.3	88.6
12.5°	99.6	93.8	89.9	89.3	88.0	84.7	84.2	82.2	80.9	80.3	80.3
15°	87.3	82.2	79.0	78.4	77.7	74.5	74.5	73.3	72.6	72.6	73.3
17.5°	75.1	70.7	68.1	67.4	67.4	64.8	65.5	64.8	64.8	64.8	66.1
20°	63.0	59.1	57.1	57.8	56.5	55.8	56.5	56.5	56.5	57.8	59.7
22.5°	52.7	49.5	47.5	48.2	48.2	47.5	48.2	48.8	50.1	52.1	54.0
25°	43.1	40.5	39.8	40.5	40.5	40.5	41.8	43.1	44.4	46.2	48.2
27.5°	34.6	32.8	32.8	33.4	34.1	34.1	35.9	37.2	39.2	41.1	43.1
30°	27.6	26.9	26.9	28.2	28.2	28.9	31.5	32.8	34.1	35.9	37.9
32.5°	21.9	21.9	22.5	23.8	23.8	25.0	26.9	28.2	29.5	31.5	33.4
35°	18.0	18.6	19.3	19.9	20.6	21.2	23.2	24.5	25.7	27.6	28.9
37.5°	14.8	15.4	16.0	17.3	17.3	18.0	19.9	21.2	21.9	23.8	25.7
40°	12.2	12.9	13.5	14.8	14.8	15.4	17.3	18.0	18.6	20.6	22.5
42.5°	10.3	10.9	11.6	12.2	12.9	13.5	14.8	15.4	16.7	18.0	19.3
45°	8.3	9.0	9.6	10.3	10.9	11.6	12.2	13.5	14.2	15.4	16.7
47.5°	7.0	7.7	8.3	9.0	9.6	9.6	10.9	11.6	12.2	13.5	14.8
50°	6.4	7.0	7.7	7.7	8.3	9.0	9.6	10.3	10.9	11.6	12.9
52.5°	5.1	5.7	6.4	7.0	7.0	7.7	8.3	9.0	9.6	10.3	10.9
55°	5.1	5.1	5.7	6.4	6.4	7.0	7.7	8.3	8.3	9.0	9.6
57.5°	4.5	5.1	5.1	5.7	5.7	6.4	7.0	7.0	7.7	7.7	8.3
60°	3.9	4.5	5.1	5.1	5.1	5.7	5.7	6.4	6.4	7.0	7.0
62.5°	3.9	4.5	4.5	5.1	5.1	5.1	5.7	5.7	5.7	6.4	6.4
65°	3.9	3.9	4.5	4.5	4.5	4.5	5.1	5.1	5.1	5.7	5.7
67.5°	3.2	3.9	3.9	3.9	4.5	4.5	4.5	4.5	4.5	5.1	5.1
70°	3.2	3.2	3.9	3.9	3.9	3.9	3.9	4.5	4.5	4.5	4.5
72.5°	3.2	3.2	3.2	3.2	3.9	3.9	3.9	3.9	3.9	3.9	3.9
75°	2.6	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
77.5°	2.6	2.6	2.6	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	1.9	1.9
85°	2.6	2.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
87.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	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: LDSQA4A15930D010TE LAR35FL 4LSQAL1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	161.2	161.2	161.2	161.2	161.2	161.2	161.2	161.2
2.5°	124.6	123.4	122.7	124.6	122.1	123.4	122.7	123.4
5°	107.2	106.0	105.3	107.2	104.7	106.0	104.7	106.0
7.5°	96.3	95.7	95.0	96.3	94.4	95.7	95.0	95.7
10°	87.3	86.7	86.0	88.0	86.0	87.3	86.7	87.3
12.5°	79.7	79.7	79.0	80.3	79.0	80.3	79.7	80.3
15°	72.6	73.3	72.6	73.9	73.3	74.5	73.9	75.1
17.5°	66.8	67.4	67.4	69.4	68.7	70.7	70.0	70.7
20°	61.0	61.7	62.3	63.6	63.6	65.5	64.8	66.1
22.5°	55.2	56.5	56.5	58.4	58.4	60.4	60.4	61.0
25°	49.5	51.4	52.1	53.3	54.0	55.8	55.8	56.5
27.5°	44.9	46.2	46.9	48.8	49.5	51.4	51.4	52.7
30°	39.8	41.8	42.4	43.7	44.4	46.2	46.2	47.5
32.5°	35.3	36.6	37.9	39.2	39.8	41.8	41.8	43.1
35°	30.8	32.8	33.4	34.6	35.9	37.9	37.9	39.2
37.5°	26.9	28.9	29.5	30.8	32.1	34.1	34.1	35.3
40°	23.8	25.7	26.3	27.6	28.2	30.8	30.8	31.5
42.5°	21.2	22.5	23.2	24.5	25.0	26.3	26.3	27.6
45°	18.0	19.3	19.9	20.6	21.9	23.2	23.2	23.8
47.5°	15.4	16.7	17.3	18.0	18.6	19.9	19.9	21.2
50°	13.5	14.2	14.8	15.4	16.0	17.3	17.3	18.0
52.5°	11.6	12.2	12.9	13.5	14.2	14.8	15.4	16.0
55°	10.3	10.9	10.9	11.6	12.2	12.9	12.9	13.5
57.5°	9.0	9.6	9.6	9.6	10.3	10.9	10.9	11.6
60°	7.7	8.3	8.3	8.3	9.0	9.0	9.0	9.6
62.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
65°	5.7	5.7	5.7	5.7	5.7	5.7	5.1	5.7
67.5°	5.1	5.1	5.1	4.5	4.5	4.5	4.5	4.5
70°	4.5	4.5	4.5	3.9	3.9	3.9	3.2	3.2
72.5°	3.9	3.9	3.9	3.2	3.2	3.2	2.6	2.6
75°	3.2	3.2	3.2	3.2	2.6	2.6	2.6	2.6
77.5°	2.6	2.6	2.6	2.6	2.6	2.6	1.9	1.9
80°	2.6	1.9	1.9	1.9	1.9	1.9	1.9	1.9
82.5°	1.9	1.9	1.9	1.9	1.3	1.3	1.3	1.3
85°	1.3	1.3	1.3	1.3	1.3	1.3	0.6	0.6
87.5°	1.3	0.6	0.6	0.6	0.6	0.6	0.6	0.6
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)