

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: P1212292

Luminaire Tested: **LDSQA4A30927D010TE LAR25NF 4LSQA1H 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: P1212292
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26800)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A30927D010TE LAR25NF 4LSQA1H 30°
Description: PORTFOLIO 4" SQUARE ADJUSTABLE REFLECTOR, ANGLE-CUT TRIM,
SELF-FLANGED, 25° NARROW FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

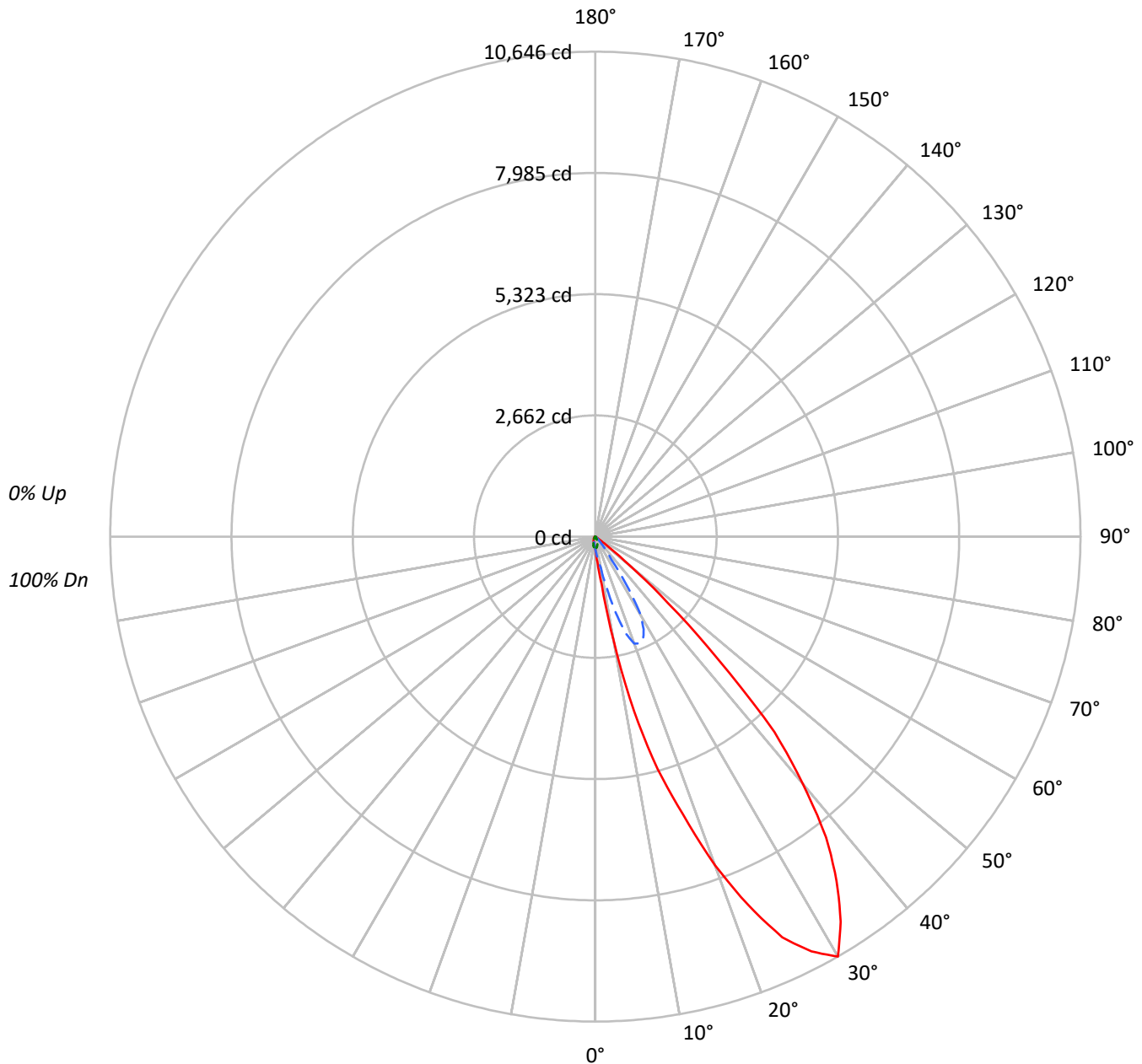
Lumens per Lamp: N/A
Luminaire Lumens: 2564.6 lumens
Efficiency: N/A
Efficacy: 64.4 lumens/watt
Spacing Criteria (0/90/45): 2.38 / 0.59 / 1.18
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 39.8
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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

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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	113	109	106	104	110	107	105	102		103	101	99			99	98	96			96
2	106	100	95	91	103	98	94	90		95	91	88			92	89	86			89
3	99	91	86	81	97	90	85	80		87	83	79			85	81	78			82
4	93	84	77	72	91	82	76	72		80	75	71			78	73	70			76
5	87	77	70	64	85	76	69	64		74	68	64			72	67	63			70
6	81	70	63	58	79	69	63	58		68	62	57			66	61	57			65
7	76	64	57	52	74	64	57	52		62	56	52			61	56	51			60
8	71	59	52	47	69	59	52	47		57	51	47			56	51	47			55
9	66	55	48	43	65	54	47	43		53	47	43			52	46	42			51
10	62	50	44	39	61	50	43	39		49	43	39			48	43	39			47

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	25943	25943	25943
5°	57414	24535	17251
10°	229871	21307	14401
15°	529867	16949	12657
20°	790968	12021	11289
25°	1037444	8017	10048
30°	1190895	5056	8781
35°	1091923	3229	7604
40°	895439	2099	6475
45°	519116	1466	5220
50°	147124	1070	4310
55°	13478	1013	3631
60°	2073	1163	3003
65°	550	1077	2178
70°	680	1331	1699
75°	898	1759	1759
80°	0	2622	1339
85°	0	5224	1334



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.0	1.5
10°-20°	341.1	13.3
20°-30°	831.0	32.4
30°-40°	900.6	35.1
40°-50°	408.1	15.9
50°-60°	31.6	1.2
60°-70°	6.5	0.3
70°-80°	4.8	0.2
80°-90°	3.0	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°	1210.1	47.2
0°-40°	2110.7	82.3
0°-60°	2550.3	99.4
0°-90°	2564.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2564.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	268	268	268	268	268	
5°	590	436	252	190	177	106
15°	5283	1729	169	123	126	1535
25°	9706	2482	75	74	94	4424
35°	9233	631	27	43	64	5679
45°	3789	80	11	24	38	2991
55°	80	11	6	14	22	182
65°	2	4	5	10	10	4
75°	2	4	5	7	5	2
85°	0	4	5	4	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°	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8
2.5°	401.2	394.0	397.6	388.0	382.2	377.4	379.8	377.4	361.9	358.3	346.5
5°	590.4	579.7	579.7	559.5	538.1	525.0	525.0	509.5	476.2	460.7	435.7
7.5°	1058.2	1036.9	1019.0	955.9	873.8	827.4	815.4	750.0	665.5	611.9	548.8
10°	2336.8	2247.6	2184.4	2020.2	1800.0	1663.0	1604.7	1378.5	1109.4	907.2	723.8
12.5°	3929.7	3808.2	3697.5	3428.4	3111.8	2896.3	2780.8	2447.6	1925.0	1551.2	1160.6
15°	5283.2	5152.2	5021.3	4693.9	4359.4	4172.5	3960.5	3518.9	2828.5	2297.5	1728.6
17.5°	6393.9	6320.0	6185.5	5705.7	5284.3	4992.7	4772.4	4195.1	3484.4	2878.4	2234.5
20°	7672.4	7490.2	7249.7	6667.7	6091.5	5726.0	5416.5	4712.9	3891.5	3195.2	2502.3
22.5°	8748.6	8618.7	8273.5	7505.7	6658.1	6346.2	5967.6	5121.3	4153.4	3329.7	2533.2
25°	9705.7	9502.1	9068.7	8155.7	7287.8	6756.9	6292.6	5342.6	4249.8	3339.2	2482.0
27.5°	10266.3	10000.8	9491.3	8496.1	7505.7	6918.8	6404.5	5380.7	4189.1	3213.0	2295.1
30°	10646.1	10117.6	9554.5	8499.7	7436.6	6836.7	6303.4	5189.1	3936.8	2924.9	1980.9
32.5°	10019.9	9713.9	9175.9	8161.7	7060.5	6474.8	5945.0	4773.7	3542.8	2497.5	1378.5
35°	9233.0	8985.4	8517.6	7510.4	6496.3	5943.8	5382.0	4240.3	3029.6	1716.6	630.9
37.5°	8318.7	8124.7	7621.2	6701.0	5808.1	5267.7	4704.6	3614.2	2133.2	851.1	383.3
40°	7080.7	6916.4	6503.4	5764.1	4941.5	4427.2	3908.2	2703.5	1158.2	474.9	250.0
42.5°	5820.1	5682.0	5305.8	4666.6	3943.9	3520.2	3063.0	1647.5	576.2	298.8	139.3
45°	3789.1	3616.6	3414.2	3121.3	2764.2	2503.5	1964.2	795.2	341.6	166.7	79.8
47.5°	2172.5	2058.3	1726.2	1361.9	1105.9	1009.5	734.5	370.2	188.1	96.4	48.8
50°	976.2	902.3	757.1	616.6	446.5	348.8	296.4	185.7	92.9	52.4	33.3
52.5°	240.5	245.2	232.1	203.5	180.9	153.6	133.3	86.9	48.8	32.1	21.5
55°	79.8	80.9	73.8	70.3	64.3	59.6	54.8	39.3	29.7	28.6	10.7
57.5°	28.6	28.6	29.7	27.3	26.2	25.0	23.8	20.2	17.9	10.7	6.0
60°	10.7	10.7	10.7	11.9	11.9	11.9	13.1	11.9	8.4	6.0	4.7
62.5°	4.7	4.7	4.7	4.7	6.0	6.0	7.1	6.0	4.7	4.7	3.6
65°	2.4	2.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
67.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.6	3.6
70°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.6	3.6
72.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.6	3.6
75°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	3.6
77.5°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	2.4	2.4	3.6
80°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	2.4	2.4	3.6
82.5°	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	2.4	2.4	3.6
85°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	2.4	3.6
87.5°	0.0	0.0	0.0	0.0	1.2	1.2	1.2	1.2	2.4	2.4	2.4
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: LDSQA4A30927D010TE LAR25NF 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8
2.5°	334.5	327.4	313.1	302.4	294.0	292.9	285.7	273.8	269.1	260.7	253.6
5°	411.9	394.0	371.4	350.0	334.5	326.2	301.1	278.5	265.4	252.3	240.5
7.5°	495.2	454.7	415.5	380.9	359.6	346.5	316.6	279.8	255.9	236.8	221.4
10°	600.0	516.6	448.8	395.3	366.7	348.8	313.1	269.1	239.3	216.6	201.1
12.5°	839.3	611.9	479.8	402.4	366.7	341.6	298.8	254.7	221.4	194.0	177.4
15°	1248.8	854.7	569.1	405.9	354.7	326.2	277.4	231.0	197.6	169.0	153.6
17.5°	1634.4	1124.9	710.7	431.0	347.6	303.5	248.8	203.5	169.0	141.7	128.6
20°	1834.4	1259.5	789.3	450.0	335.7	275.0	215.5	173.8	140.5	116.6	106.0
22.5°	1839.2	1247.6	751.1	405.9	291.7	235.7	184.5	142.8	114.2	94.0	85.8
25°	1726.2	1103.6	617.9	316.6	235.7	197.6	153.6	116.6	89.3	75.0	69.0
27.5°	1513.1	892.8	456.0	228.6	184.5	157.2	120.2	89.3	67.8	58.3	54.8
30°	1170.2	552.3	252.3	169.0	139.3	117.9	86.9	59.6	51.2	45.2	42.8
32.5°	580.9	270.2	178.5	120.2	95.3	75.0	54.8	44.1	39.3	35.7	34.6
35°	315.5	194.0	111.9	72.7	57.2	47.6	37.0	31.0	28.6	27.3	27.3
37.5°	220.2	115.5	67.8	44.1	35.7	32.1	26.2	22.6	21.5	21.5	21.5
40°	121.5	69.0	41.7	28.6	23.8	21.5	17.9	16.6	16.6	16.6	17.9
42.5°	70.3	42.8	28.6	20.2	16.6	15.5	13.1	11.9	13.1	13.1	14.2
45°	45.2	32.1	19.1	14.2	11.9	10.7	9.5	9.5	10.7	10.7	11.9
47.5°	32.1	22.6	13.1	9.5	7.1	7.1	7.1	7.1	8.4	9.5	10.7
50°	19.1	11.9	7.1	6.0	4.7	4.7	4.7	6.0	7.1	7.1	8.4
52.5°	10.7	7.1	4.7	4.7	3.6	3.6	4.7	4.7	6.0	7.1	8.4
55°	6.0	4.7	3.6	3.6	3.6	3.6	3.6	4.7	4.7	6.0	7.1
57.5°	4.7	3.6	3.6	3.6	3.6	3.6	3.6	4.7	4.7	6.0	6.0
60°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	4.7	4.7	6.0	6.0
62.5°	3.6	3.6	3.6	3.6	3.6	3.6	4.7	4.7	4.7	4.7	6.0
65°	3.6	3.6	3.6	4.7	3.6	4.7	4.7	4.7	4.7	4.7	6.0
67.5°	3.6	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	6.0
70°	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	6.0
72.5°	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	6.0
75°	3.6	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
77.5°	3.6	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
80°	3.6	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
82.5°	3.6	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
85°	3.6	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7
87.5°	3.6	3.6	3.6	3.6	4.7	4.7	4.7	4.7	4.7	4.7	4.7
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: LDSQA4A30927D010TE LAR25NF 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8
2.5°	251.2	242.8	236.8	234.5	229.7	231.0	227.4	225.0	217.9	217.9	213.1
5°	232.1	221.4	214.2	210.7	206.0	204.8	201.1	197.6	190.5	189.3	185.7
7.5°	211.9	201.1	192.9	189.3	184.5	183.3	178.5	176.2	170.2	169.0	165.4
10°	190.5	178.5	171.4	167.8	163.1	163.1	159.6	157.2	152.3	152.3	150.0
12.5°	167.8	157.2	152.3	147.6	145.2	145.2	142.8	140.5	137.0	138.1	137.0
15°	144.1	135.7	131.0	128.6	127.4	127.4	126.2	125.0	122.6	125.0	122.6
17.5°	121.5	115.5	111.9	110.7	109.5	109.5	109.5	110.7	109.5	111.9	111.9
20°	100.0	95.3	92.9	92.9	91.6	94.0	94.0	96.4	96.4	100.0	101.1
22.5°	82.2	78.5	77.4	77.4	77.4	79.8	80.9	83.3	84.5	88.1	90.5
25°	65.4	64.3	64.3	64.3	65.4	67.8	70.3	72.7	73.8	78.5	79.8
27.5°	53.6	52.4	53.6	53.6	54.8	58.3	60.7	63.1	65.4	69.0	71.4
30°	42.8	42.8	44.1	45.2	46.4	48.8	52.4	54.8	57.2	60.7	63.1
32.5°	34.6	35.7	37.0	38.1	38.1	41.7	44.1	47.6	48.8	52.4	54.8
35°	28.6	29.7	31.0	32.1	32.1	35.7	38.1	40.5	42.8	45.2	47.6
37.5°	22.6	23.8	26.2	27.3	27.3	31.0	32.1	34.6	37.0	39.3	41.7
40°	19.1	20.2	22.6	22.6	23.8	26.2	27.3	29.7	32.1	34.6	37.0
42.5°	15.5	16.6	19.1	20.2	20.2	22.6	23.8	26.2	27.3	29.7	31.0
45°	14.2	14.2	16.6	16.6	17.9	19.1	21.5	22.6	23.8	26.2	27.3
47.5°	11.9	13.1	14.2	15.5	15.5	16.6	17.9	19.1	20.2	22.6	23.8
50°	9.5	10.7	13.1	13.1	13.1	15.5	16.6	17.9	17.9	19.1	20.2
52.5°	9.5	9.5	10.7	11.9	11.9	13.1	14.2	15.5	15.5	16.6	17.9
55°	8.4	8.4	9.5	10.7	10.7	11.9	13.1	13.1	14.2	14.2	15.5
57.5°	7.1	8.4	9.5	9.5	9.5	10.7	11.9	11.9	13.1	13.1	14.2
60°	7.1	8.4	8.4	9.5	9.5	10.7	10.7	10.7	11.9	11.9	11.9
62.5°	7.1	7.1	8.4	8.4	8.4	9.5	9.5	10.7	10.7	10.7	10.7
65°	7.1	7.1	8.4	8.4	8.4	9.5	9.5	9.5	9.5	9.5	9.5
67.5°	6.0	7.1	7.1	7.1	8.4	8.4	8.4	8.4	8.4	8.4	8.4
70°	6.0	6.0	7.1	7.1	7.1	8.4	8.4	8.4	8.4	8.4	8.4
72.5°	6.0	6.0	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
75°	6.0	6.0	6.0	6.0	6.0	7.1	7.1	7.1	7.1	6.0	6.0
77.5°	4.7	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	4.7
80°	4.7	4.7	6.0	4.7	6.0	6.0	6.0	6.0	4.7	4.7	4.7
82.5°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	4.7	3.6	3.6
85°	4.7	4.7	4.7	4.7	4.7	4.7	4.7	3.6	3.6	3.6	2.4
87.5°	4.7	4.7	4.7	4.7	4.7	4.7	3.6	3.6	3.6	2.4	2.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P1212292

CATALOG NUMBER: LDSQA4A30927D010TE LAR25NF 4LSQA1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	267.8	267.8	267.8	267.8	267.8	267.8	267.8	267.8
2.5°	210.7	213.1	210.7	213.1	207.1	209.5	211.9	206.0
5°	183.3	180.9	182.2	184.5	179.8	180.9	182.2	177.4
7.5°	164.3	165.4	163.1	165.4	161.9	163.1	164.3	160.7
10°	148.8	150.0	148.8	150.0	146.4	148.8	150.0	146.4
12.5°	134.5	137.0	135.7	138.1	134.5	137.0	139.3	134.5
15°	123.8	126.2	125.0	127.4	125.0	127.4	129.7	126.2
17.5°	113.1	115.5	115.5	117.9	116.6	119.0	121.5	117.9
20°	102.4	106.0	106.0	108.4	108.4	109.5	113.1	109.5
22.5°	92.9	96.4	96.4	98.8	98.8	101.1	103.6	101.1
25°	82.2	86.9	88.1	90.5	90.5	92.9	96.4	94.0
27.5°	75.0	78.5	79.8	82.2	83.3	85.8	88.1	85.8
30°	65.4	70.3	71.4	73.8	75.0	78.5	79.8	78.5
32.5°	58.3	61.9	63.1	65.4	67.8	70.3	72.7	71.4
35°	51.2	54.8	55.9	58.3	59.6	63.1	65.4	64.3
37.5°	45.2	48.8	49.9	51.2	52.4	55.9	58.3	57.2
40°	39.3	41.7	42.8	45.2	46.4	48.8	51.2	51.2
42.5°	34.6	37.0	38.1	39.3	40.5	42.8	45.2	44.1
45°	29.7	32.1	33.3	34.6	35.7	37.0	39.3	38.1
47.5°	25.0	27.3	28.6	29.7	31.0	32.1	34.6	33.3
50°	21.5	23.8	23.8	25.0	26.2	27.3	29.7	28.6
52.5°	19.1	20.2	21.5	21.5	22.6	23.8	26.2	25.0
55°	16.6	17.9	17.9	19.1	19.1	20.2	21.5	21.5
57.5°	14.2	15.5	15.5	16.6	16.6	17.9	19.1	19.1
60°	13.1	13.1	14.2	14.2	14.2	15.5	15.5	15.5
62.5°	11.9	11.9	11.9	11.9	11.9	11.9	11.9	11.9
65°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
67.5°	8.4	8.4	8.4	8.4	8.4	7.1	7.1	7.1
70°	7.1	7.1	7.1	7.1	7.1	6.0	6.0	6.0
72.5°	7.1	7.1	6.0	6.0	6.0	6.0	6.0	4.7
75°	6.0	6.0	6.0	6.0	4.7	4.7	4.7	4.7
77.5°	4.7	4.7	4.7	4.7	3.6	3.6	3.6	3.6
80°	4.7	3.6	3.6	3.6	3.6	3.6	3.6	2.4
82.5°	3.6	3.6	3.6	2.4	2.4	2.4	2.4	2.4
85°	2.4	2.4	2.4	2.4	1.2	1.2	1.2	1.2
87.5°	2.4	1.2	1.2	1.2	1.2	1.2	1.2	1.2
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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Peachtree City, GA 30269

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— 0°-180° - - 45°-225° - - - 90°-270°

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