

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: P1219563

Luminaire Tested: **LDSQA4A30950D010TE LAR25NF 4LSQAL1H 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: P1219563
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P26803)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDSQA4A30950D010TE LAR25NF 4LSQAL1H 30°
Description: PORTFOLIO 4" SQUARE LENSED ADJUSTABLE, SELF-FLANGED, 25° NARROW FLOOD, 30° Tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

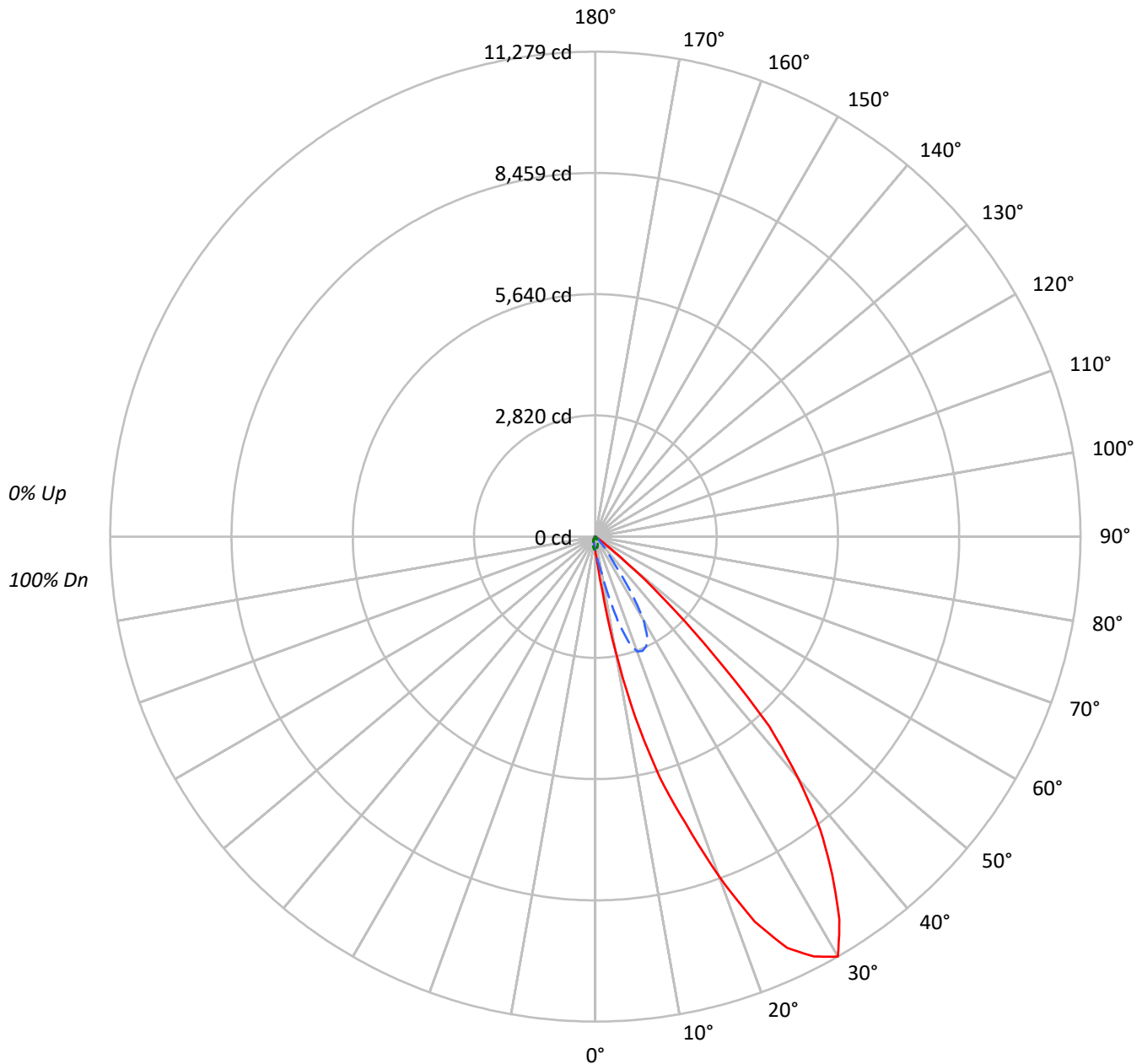
Lumens per Lamp: N/A
Luminaire Lumens: 2825.1 lumens
Efficiency: N/A
Efficacy: 71.0 lumens/watt
Spacing Criteria (0/90/45): 2.37 / 0.61 / 1.19
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P1219563

CATALOG NUMBER: LDSQA4A30950D010TE LAR25NF 4LSQAL1H 30°

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	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	83	76	72	80	75	71		78	74	70		76
5	87	77	70	65	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	65	57	52	74	64	57	52	62	56	52		61	56	52		60
8	71	59	52	47	69	59	52	47	58	51	47		57	51	47		55
9	66	55	48	43	65	54	48	43	53	47	43		52	47	43		51
10	62	51	44	39	61	50	44	39	49	43	39		48	43	39		48

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	30496	30496	30496
5°	68286	28687	20548
10°	267763	25114	16182
15°	581267	20339	14081
20°	867154	15062	12711
25°	1127873	10614	11074
30°	1261737	7148	9676
35°	1135491	4198	8219
40°	926662	2871	7183
45°	532077	1945	5823
50°	155625	1492	4928
55°	17971	1199	4070
60°	3856	1376	3313
65°	1284	1284	2269
70°	1218	1586	1586
75°	1048	2096	1609
80°	0	3124	1562
85°	0	6225	1667

TEST NUMBER: P1219563

CATALOG NUMBER: LDSQA4A30950D010TE LAR25NF 4LSQAL1H 30°

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.1	1.6
10°-20°	386.8	13.7
20°-30°	922.6	32.7
30°-40°	973.7	34.5
40°-50°	441.6	15.6
50°-60°	38.7	1.4
60°-70°	8.1	0.3
70°-80°	5.3	0.2
80°-90°	3.3	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°	1354.5	47.9
0°-40°	2328.1	82.4
0°-60°	2808.4	99.4
0°-90°	2825.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2825.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	315	315	315	315	315	
5°	702	515	295	227	211	126
15°	5796	2038	203	139	140	1686
25°	10552	2806	99	85	104	4794
35°	9601	774	36	48	70	5929
45°	3884	109	14	27	42	3079
55°	106	17	7	16	24	212
65°	6	6	6	11	10	7
75°	3	3	6	7	4	2
85°	0	3	6	4	2	0
90°	0	0	0	0	0	

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CATALOG NUMBER: LDSQA4A30950D010TE LAR25NF 4LSQAL1H 30°

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8
2.5°	468.1	470.9	458.2	459.6	446.8	452.4	448.2	436.8	428.4	414.1	408.5
5°	702.2	706.4	678.0	669.6	639.7	639.7	627.0	597.2	570.2	537.6	514.9
7.5°	1283.7	1300.7	1215.7	1151.8	1058.2	1035.4	991.5	889.4	805.7	720.5	656.7
10°	2722.0	2690.7	2514.9	2370.3	2129.1	2039.6	1920.5	1627.0	1357.5	1089.4	879.4
12.5°	4292.2	4392.9	4053.8	3936.2	3554.6	3473.8	3219.8	2740.4	2285.1	1811.4	1391.4
15°	5795.7	5825.6	5529.1	5337.6	4872.4	4767.5	4455.3	3892.1	3279.4	2618.5	2038.3
17.5°	7002.9	7121.9	6686.6	6480.9	5876.6	5707.8	5340.5	4655.4	3973.0	3251.0	2563.1
20°	8411.4	8442.5	7926.3	7530.4	6740.4	6483.7	6044.0	5194.4	4381.6	3557.4	2846.8
22.5°	9692.2	9685.1	9021.3	8462.4	7462.4	7156.0	6612.7	5605.7	4661.0	3693.7	2873.7
25°	10551.7	10574.4	9863.8	9202.9	7975.9	7561.7	6949.0	5819.8	4756.0	3689.4	2805.7
27.5°	11010.0	10987.3	10225.5	9519.1	8164.6	7700.8	7035.5	5827.0	4669.5	3544.6	2601.5
30°	11279.4	10975.8	10163.1	9429.8	8036.8	7560.3	6883.8	5602.9	4381.6	3221.2	2236.8
32.5°	10558.8	10441.2	9733.4	8954.7	7597.2	7124.9	6456.7	5126.3	3924.9	2726.3	1602.8
35°	9601.4	9605.8	8915.0	8187.3	6907.8	6496.5	5807.2	4546.2	3367.4	1895.0	774.5
37.5°	8597.2	8611.4	7954.5	7278.0	6139.0	5706.4	5061.0	3885.1	2422.7	964.5	466.6
40°	7327.6	7357.5	6791.5	6248.2	5197.2	4780.2	4204.3	2940.5	1354.7	539.0	316.4
42.5°	5987.3	6024.1	5522.0	5039.7	4146.1	3802.9	3292.2	1821.4	672.4	348.9	185.8
45°	3883.7	3990.1	3617.0	3414.2	2896.4	2692.1	2149.0	929.1	405.7	204.3	109.2
47.5°	2222.7	2224.0	1909.2	1529.0	1253.9	1090.9	852.5	422.8	236.9	114.9	66.7
50°	1032.6	1058.2	838.2	697.8	499.3	422.8	347.5	228.4	124.8	66.7	41.2
52.5°	300.8	317.8	287.9	261.0	221.3	197.2	168.8	112.1	65.2	39.7	25.5
55°	106.4	113.6	106.4	99.3	89.3	80.8	72.4	54.0	36.9	24.1	17.1
57.5°	44.0	45.3	44.0	42.5	39.7	39.7	35.5	29.7	22.7	15.6	11.4
60°	19.9	21.3	19.9	21.3	19.9	19.9	19.9	21.3	14.2	9.9	8.4
62.5°	8.4	9.9	9.9	9.9	9.9	11.4	11.4	9.9	8.4	7.1	5.6
65°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
67.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
70°	4.3	4.3	4.3	4.3	4.3	4.3	2.8	2.8	4.3	4.3	4.3
72.5°	4.3	4.3	4.3	4.3	2.8	2.8	2.8	2.8	2.8	4.3	4.3
75°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
77.5°	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	2.8	2.8	2.8
80°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.8	2.8	2.8
82.5°	0.0	0.0	0.0	1.5	1.5	1.5	1.5	1.5	2.8	2.8	2.8
85°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.8	2.8	2.8
87.5°	0.0	0.0	0.0	0.0	1.5	1.5	1.5	1.5	2.8	2.8	2.8
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°	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8
2.5°	401.4	388.6	368.8	356.1	350.4	341.8	336.2	322.0	316.4	304.9	300.8
5°	493.6	468.1	438.4	414.1	398.6	381.6	356.1	327.6	313.5	295.0	285.1
7.5°	598.5	543.3	490.8	448.2	428.4	405.7	373.0	329.1	302.1	278.1	263.8
10°	732.0	618.4	536.1	468.1	438.4	408.5	368.8	317.8	283.7	255.3	239.7
12.5°	1044.0	746.1	577.3	479.4	441.2	404.2	354.5	302.1	262.4	229.7	212.7
15°	1502.2	1042.5	688.0	489.3	431.2	385.8	329.1	276.6	235.6	202.8	185.8
17.5°	1907.8	1329.0	841.0	526.2	428.4	364.5	298.0	244.0	204.3	173.1	158.9
20°	2129.1	1479.5	943.2	548.9	415.6	331.9	262.4	211.3	173.1	146.1	133.4
22.5°	2133.4	1470.9	906.5	499.3	366.0	287.9	226.9	178.8	144.7	120.5	110.6
25°	2005.7	1312.1	756.0	392.9	299.3	244.0	190.0	148.9	117.7	99.3	90.7
27.5°	1767.4	1066.6	556.0	283.7	234.1	197.2	153.3	119.2	92.2	80.8	73.8
30°	1390.1	695.0	324.8	211.3	181.6	151.7	116.4	83.7	72.4	63.9	58.1
32.5°	746.1	337.6	226.9	156.1	129.1	106.4	76.6	60.9	52.5	46.8	45.3
35°	390.0	246.8	151.7	99.3	82.3	69.5	52.5	42.5	38.3	35.5	35.5
37.5°	279.4	154.6	96.5	63.9	54.0	44.0	36.9	31.3	28.3	28.3	28.3
40°	166.0	95.1	58.1	41.2	35.5	31.3	26.9	22.7	22.7	22.7	22.7
42.5°	100.7	59.6	41.2	28.3	25.5	22.7	19.9	18.4	17.1	17.1	18.4
45°	62.4	41.2	26.9	21.3	19.9	17.1	15.6	14.2	14.2	14.2	15.6
47.5°	39.7	29.7	19.9	14.2	12.8	11.4	9.9	9.9	11.4	11.4	12.8
50°	29.7	18.4	12.8	9.9	8.4	8.4	7.1	8.4	8.4	9.9	11.4
52.5°	17.1	11.4	8.4	7.1	7.1	5.6	5.6	7.1	7.1	8.4	9.9
55°	11.4	8.4	7.1	5.6	5.6	5.6	5.6	5.6	7.1	7.1	8.4
57.5°	8.4	7.1	5.6	5.6	5.6	4.3	5.6	5.6	5.6	7.1	8.4
60°	7.1	5.6	5.6	5.6	5.6	4.3	4.3	5.6	5.6	7.1	7.1
62.5°	5.6	5.6	5.6	5.6	5.6	4.3	5.6	5.6	5.6	5.6	7.1
65°	4.3	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	7.1
67.5°	4.3	4.3	5.6	5.6	5.6	4.3	5.6	5.6	5.6	5.6	7.1
70°	4.3	4.3	4.3	5.6	5.6	4.3	5.6	5.6	5.6	5.6	5.6
72.5°	4.3	4.3	4.3	5.6	5.6	4.3	5.6	5.6	5.6	5.6	5.6
75°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.6	5.6	5.6
77.5°	4.3	4.3	4.3	4.3	5.6	4.3	5.6	5.6	5.6	5.6	5.6
80°	4.3	4.3	4.3	4.3	4.3	4.3	5.6	5.6	5.6	5.6	5.6
82.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.6	5.6	5.6	5.6
85°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.6	5.6	5.6	5.6
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	5.6	5.6	5.6
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: LDSQA4A30950D010TE LAR25NF 4LSQAL1H 30°

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8
2.5°	289.3	285.1	276.6	275.2	273.7	268.1	263.8	259.6	259.6	255.3	252.4
5°	268.1	261.0	251.1	246.8	245.3	238.4	232.5	228.4	226.9	222.7	218.5
7.5°	245.3	236.9	225.5	221.3	219.9	212.7	207.1	202.8	200.0	195.8	192.8
10°	221.3	211.3	201.4	197.2	195.8	188.7	184.4	180.1	177.3	174.5	171.6
12.5°	195.8	187.2	177.3	173.1	171.6	166.0	161.7	158.9	157.5	154.6	153.3
15°	170.1	161.7	153.3	150.3	148.9	144.7	141.9	140.4	139.0	139.0	137.6
17.5°	144.7	137.6	130.4	129.1	127.6	124.8	123.3	122.0	123.3	123.3	124.8
20°	120.5	114.9	109.2	109.2	107.7	106.4	106.4	106.4	109.2	110.6	113.6
22.5°	99.3	95.1	90.7	90.7	90.7	90.7	90.7	93.7	96.5	99.3	100.7
25°	82.3	78.0	76.6	76.6	76.6	78.0	79.5	82.3	85.1	87.9	90.7
27.5°	66.7	63.9	63.9	63.9	65.2	66.7	68.0	70.8	75.2	78.0	80.8
30°	54.0	52.5	52.5	54.0	55.3	56.8	59.6	62.4	65.2	68.0	70.8
32.5°	42.5	44.0	44.0	45.3	46.8	48.2	51.2	54.0	56.8	59.6	60.9
35°	35.5	35.5	36.9	38.3	39.7	41.2	44.0	46.8	48.2	51.2	54.0
37.5°	28.3	29.7	31.3	32.7	34.1	35.5	36.9	39.7	41.2	44.0	46.8
40°	24.1	25.5	26.9	28.3	28.3	31.3	31.3	34.1	35.5	38.3	41.2
42.5°	19.9	21.3	22.7	24.1	24.1	25.5	26.9	28.3	31.3	32.7	35.5
45°	15.6	17.1	18.4	19.9	21.3	22.7	22.7	25.5	26.9	28.3	31.3
47.5°	14.2	15.6	17.1	17.1	18.4	19.9	19.9	22.7	24.1	25.5	26.9
50°	11.4	12.8	14.2	15.6	15.6	17.1	18.4	19.9	21.3	22.7	22.7
52.5°	9.9	11.4	12.8	12.8	14.2	15.6	15.6	17.1	18.4	18.4	19.9
55°	9.9	11.4	11.4	12.8	12.8	14.2	14.2	15.6	15.6	17.1	17.1
57.5°	8.4	9.9	9.9	11.4	11.4	12.8	12.8	14.2	14.2	14.2	15.6
60°	8.4	8.4	9.9	9.9	11.4	11.4	11.4	12.8	12.8	12.8	14.2
62.5°	7.1	8.4	8.4	9.9	9.9	9.9	11.4	11.4	11.4	12.8	12.8
65°	7.1	8.4	8.4	9.9	9.9	9.9	9.9	9.9	11.4	11.4	11.4
67.5°	7.1	7.1	8.4	8.4	8.4	8.4	9.9	9.9	9.9	9.9	9.9
70°	7.1	7.1	7.1	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4
72.5°	5.6	7.1	7.1	7.1	7.1	8.4	8.4	8.4	8.4	8.4	7.1
75°	5.6	5.6	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
77.5°	5.6	5.6	5.6	7.1	7.1	7.1	7.1	7.1	7.1	5.6	5.6
80°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.3
82.5°	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	4.3	4.3	4.3
85°	5.6	4.3	5.6	5.6	5.6	4.3	4.3	4.3	4.3	4.3	2.8
87.5°	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	2.8	2.8
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: LDSQA4A30950D010TE LAR25NF 4LSQAL1H 30°

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	314.8	314.8	314.8	314.8	314.8	314.8	314.8	314.8
2.5°	249.6	246.8	248.2	248.2	245.3	244.0	244.0	245.3
5°	215.7	212.7	214.2	214.2	211.3	209.9	209.9	211.3
7.5°	190.0	187.2	188.7	188.7	185.8	185.8	185.8	185.8
10°	170.1	168.8	168.8	168.8	166.0	167.3	166.0	164.5
12.5°	151.7	151.7	151.7	151.7	150.3	151.7	150.3	150.3
15°	137.6	137.6	139.0	139.0	139.0	140.4	140.4	140.4
17.5°	126.3	127.6	129.1	130.4	130.4	131.9	131.9	131.9
20°	114.9	117.7	119.2	120.5	120.5	123.3	122.0	123.3
22.5°	103.6	106.4	107.7	109.2	110.6	112.1	112.1	113.6
25°	93.7	96.5	97.9	99.3	100.7	103.6	103.6	103.6
27.5°	83.7	86.5	87.9	90.7	92.2	95.1	95.1	95.1
30°	73.8	76.6	78.0	79.5	82.3	85.1	85.1	86.5
32.5°	63.9	68.0	69.5	70.8	73.8	76.6	78.0	78.0
35°	56.8	59.6	60.9	63.9	65.2	69.5	69.5	69.5
37.5°	49.6	52.5	55.3	56.8	58.1	60.9	62.4	63.9
40°	44.0	46.8	48.2	49.6	52.5	55.3	56.8	56.8
42.5°	38.3	41.2	42.5	44.0	45.3	48.2	48.2	48.2
45°	34.1	35.5	36.9	38.3	39.7	41.2	42.5	42.5
47.5°	28.3	31.3	31.3	32.7	34.1	36.9	36.9	38.3
50°	24.1	26.9	26.9	28.3	29.7	31.3	32.7	32.7
52.5°	21.3	22.7	24.1	24.1	25.5	26.9	28.3	28.3
55°	18.4	19.9	19.9	21.3	21.3	22.7	24.1	24.1
57.5°	15.6	17.1	18.4	18.4	18.4	19.9	19.9	21.3
60°	14.2	15.6	15.6	15.6	15.6	17.1	17.1	17.1
62.5°	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
65°	11.4	11.4	11.4	11.4	9.9	9.9	9.9	9.9
67.5°	9.9	9.9	9.9	9.9	8.4	8.4	8.4	8.4
70°	8.4	8.4	8.4	8.4	7.1	7.1	7.1	5.6
72.5°	7.1	7.1	7.1	7.1	7.1	5.6	5.6	5.6
75°	7.1	5.6	5.6	5.6	5.6	5.6	4.3	4.3
77.5°	5.6	5.6	5.6	4.3	4.3	4.3	4.3	4.3
80°	4.3	4.3	4.3	4.3	4.3	2.8	2.8	2.8
82.5°	4.3	2.8	2.8	2.8	2.8	2.8	2.8	2.8
85°	2.8	2.8	2.8	2.8	1.5	1.5	1.5	1.5
87.5°	2.8	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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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