

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: P1191437

Luminaire Tested: **LDA4A10930D010TE LAR15SP 4LA1 30° Tilt**

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: P1191437
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25648)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A10930D010TE LAR15SP 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 15° Spot
Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

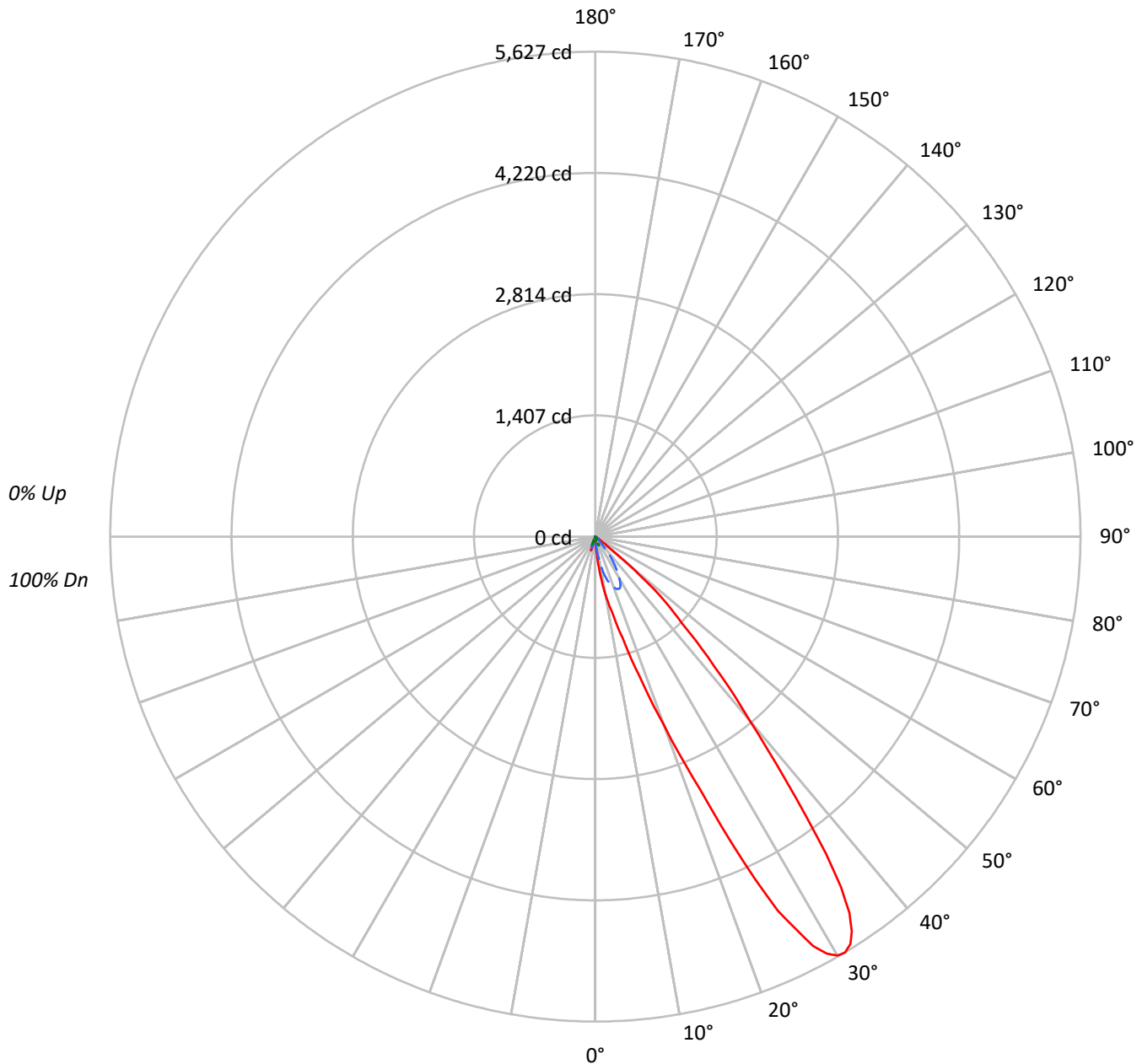
Lumens per Lamp: N/A
Luminaire Lumens: 907.8 lumens
Efficiency: N/A
Efficacy: 73.2 lumens/watt
Spacing Criteria (0/90/45): 2.52 / 1.04 / 1.28
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 12.4
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

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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	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	98	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	63		73	67	63		71	66	62		70	65	62
6	80	69	62	57		79	69	62	57		67	61	56		65	60	56		64	59	56
7	75	64	56	51		73	63	56	51		62	55	51		60	55	50		59	54	50
8	70	58	51	46		69	58	51	46		57	50	46		55	50	46		54	49	45
9	65	54	47	42		64	53	46	42		52	46	41		51	45	41		50	45	41
10	61	49	42	38		60	49	42	38		48	42	38		47	41	37		46	41	37

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	6537	6537	6537
5°	29307	6129	3975
10°	86722	5649	5073
15°	154832	6691	14315
20°	306680	13152	15384
25°	596798	8588	4369
30°	799416	3205	1524
35°	748007	1355	587
40°	448253	628	177
45°	248747	401	0
50°	91245	326	0
55°	13935	237	0
60°	3059	271	0
65°	992	321	0
70°	180	397	0
75°	0	810	0
80°	0	1208	0
85°	0	2406	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	11.6	1.3
10°-20°	98.1	10.8
20°-30°	292.7	32.2
30°-40°	346.7	38.2
40°-50°	143.8	15.8
50°-60°	11.2	1.2
60°-70°	1.5	0.2
70°-80°	1.1	0.1
80°-90°	1.1	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°	402.4	44.3
0°-40°	749.1	82.5
0°-60°	904.1	99.6
0°-90°	907.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	907.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	53	53	53	53	53	
5°	237	120	50	34	32	37
15°	1212	512	52	78	112	400
25°	4385	665	63	37	32	2003
35°	4968	371	9	5	4	2879
45°	1426	33	2	2	0	1163
55°	65	4	1	0	0	95
65°	3	1	1	1	0	4
75°	0	1	2	1	0	0
85°	0	1	2	1	0	0
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°	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
2.5°	91.8	87.4	89.5	85.6	87.9	83.9	81.1	83.9	83.9	81.6	78.3
5°	236.7	235.5	240.0	229.3	232.1	220.4	210.2	213.0	210.7	203.4	190.4
7.5°	450.8	446.2	451.3	436.1	436.6	416.9	401.7	405.1	395.0	382.5	360.0
10°	692.4	686.3	691.9	673.8	670.5	642.9	621.5	624.8	601.7	581.5	547.1
12.5°	902.1	901.4	883.5	886.8	880.0	837.7	824.2	825.4	793.8	771.4	730.2
15°	1212.5	1224.3	1227.6	1204.6	1162.9	1086.3	1052.5	1039.5	988.2	950.5	891.4
17.5°	1689.8	1706.1	1650.3	1663.8	1595.0	1475.0	1408.0	1368.0	1271.6	1200.6	1093.6
20°	2336.4	2322.4	2241.8	2231.7	2114.6	1960.2	1819.3	1743.8	1595.6	1491.9	1335.9
22.5°	3171.5	3160.8	3022.7	2961.3	2716.3	2498.7	2316.2	2126.9	1906.5	1768.0	1556.1
25°	4385.1	4336.1	4070.1	3895.5	3464.5	3094.8	2790.7	2496.5	2159.0	2008.6	1739.3
26°	4831.8	4820.0	4542.8	4312.9	3793.5	3334.9	2924.7	2630.0	2258.2	2082.5	1791.1
27°	5100.1	5194.2	4936.2	4675.8	4107.8	3558.6	3083.0	2737.7	2335.4	2134.3	1824.4
28°	5378.4	5439.3	5208.2	4881.5	4359.8	3736.5	3203.1	2810.3	2382.7	2159.6	1835.6
29°	5531.6	5590.2	5375.6	5069.1	4524.9	3852.1	3274.0	2842.5	2400.1	2159.0	1825.5
30°	5612.8	5667.4	5457.9	5160.3	4593.0	3888.1	3289.2	2829.5	2383.3	2133.1	1796.8
31°	5627.4	5673.0	5466.3	5157.5	4567.0	3843.7	3246.4	2776.0	2338.2	2085.3	1753.3
32°	5577.9	5613.3	5403.2	5074.1	4450.5	3730.9	3157.4	2693.1	2269.4	2025.5	1697.5
33°	5461.8	5525.4	5269.1	4905.7	4247.6	3564.2	3031.1	2584.9	2183.8	1947.7	1629.4
34°	5269.6	5310.3	5044.8	4642.1	3977.2	3361.3	2876.3	2459.4	2085.8	1855.9	1552.2
35°	4967.6	5003.7	4710.2	4285.9	3669.0	3132.7	2699.3	2320.8	1976.0	1752.8	1466.6
36°	4549.6	4584.0	4276.9	3890.4	3358.0	2894.3	2512.9	2169.7	1857.0	1642.4	1375.9
37°	4061.1	4091.0	3817.7	3502.2	3052.7	2653.1	2324.1	2016.5	1731.4	1529.6	1289.7
38°	3589.0	3616.0	3395.2	3138.3	2757.9	2417.6	2136.0	1857.6	1601.7	1416.4	1199.0
39°	3163.0	3186.7	3008.6	2796.8	2477.3	2191.7	1948.3	1699.8	1471.7	1303.2	1105.5
40°	2783.9	2804.2	2657.7	2483.6	2222.7	1980.4	1765.8	1547.1	1344.3	1193.4	1018.1
42.5°	2043.5	2048.1	1960.7	1858.1	1655.4	1516.1	1363.4	1205.7	1057.6	953.9	842.3
45°	1426.0	1481.8	1424.9	1356.7	1211.3	1124.1	1026.5	931.4	845.6	745.9	635.5
47.5°	1025.4	1027.7	993.9	951.1	836.1	776.4	696.4	580.8	495.9	354.4	263.2
50°	475.5	449.0	450.8	421.5	375.8	298.6	249.7	178.1	142.0	101.4	81.6
51°	282.9	263.2	266.0	245.1	214.6	167.4	142.0	113.9	98.6	76.7	63.1
52°	165.1	158.3	157.8	148.1	126.2	116.0	102.5	85.6	74.9	59.1	49.0
53°	120.0	115.5	115.5	109.3	94.1	87.4	77.7	66.0	57.4	45.1	37.2
54°	89.5	86.2	86.2	82.3	76.0	65.3	58.6	49.0	42.8	34.9	27.6
55°	64.8	62.5	62.5	59.7	55.2	47.4	42.3	35.5	31.6	25.3	20.3
57.5°	27.0	25.9	25.9	24.8	23.7	20.3	19.1	16.3	14.1	12.4	10.2
60°	12.4	11.8	12.4	11.8	10.7	11.2	9.6	8.4	7.9	6.8	5.6
61°	9.6	9.0	9.0	9.0	7.9	7.9	7.4	6.8	6.2	5.1	4.5
62°	7.4	6.8	6.8	6.8	6.2	6.2	5.6	5.1	5.1	3.9	3.4
63°	5.6	5.1	5.1	5.1	4.5	4.5	4.5	3.9	3.9	3.4	2.8
64°	3.9	3.9	3.9	3.9	3.9	3.4	3.4	3.4	2.8	2.3	2.3
65°	3.4	2.8	3.4	2.8	2.8	2.8	2.8	2.8	2.3	1.7	1.7
66°	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	1.7	1.1



TEST NUMBER: P1191437

CATALOG NUMBER: LDA4A10930D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
72.5°	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5	0.5
75°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
85°	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.5
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	0.5	0.5	0.5
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°	67.5°	90°	112.5°
0°	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0	53.0
2.5°	76.7	78.8	77.2	72.7	74.9	73.8	71.6	69.8	59.7	51.8	43.9
5°	180.9	182.5	173.0	156.0	150.4	141.4	128.5	119.5	67.6	49.5	38.8
7.5°	342.0	330.7	321.7	290.2	276.7	255.8	231.1	213.5	77.2	46.7	36.0
10°	517.8	499.7	481.2	435.0	410.8	378.6	343.1	322.9	87.4	45.1	36.0
12.5°	691.9	667.7	633.8	583.1	548.7	505.4	456.9	420.8	94.6	46.2	41.7
15°	842.8	813.5	776.4	718.9	678.9	624.8	561.7	512.2	98.1	52.4	58.1
17.5°	1007.4	954.4	893.0	819.8	775.8	713.3	642.4	582.0	98.1	66.5	93.0
20°	1196.7	1099.8	1001.2	898.6	836.7	771.4	695.2	630.5	102.0	100.2	127.9
22.5°	1373.1	1239.5	1100.4	966.8	880.7	809.6	732.4	658.0	118.3	110.4	85.1
25°	1509.9	1340.4	1176.4	1014.2	916.7	837.7	755.0	665.4	108.1	63.1	46.2
26°	1545.4	1362.4	1191.6	1019.8	918.4	837.2	752.8	657.5	90.7	50.2	37.2
27°	1564.0	1369.7	1192.7	1014.7	911.6	827.7	740.3	641.2	72.7	40.5	30.4
28°	1564.0	1361.3	1180.9	1000.7	894.2	809.6	718.9	615.2	59.1	33.2	24.2
29°	1548.2	1339.2	1157.2	979.3	870.5	784.2	689.6	584.8	50.2	27.6	19.7
30°	1517.8	1307.1	1125.7	951.6	840.0	755.6	657.5	553.3	43.4	22.5	15.8
31°	1475.0	1271.1	1086.9	921.8	811.9	729.1	628.2	521.2	37.7	18.1	13.0
32°	1423.8	1226.0	1046.9	890.7	788.8	704.3	597.8	487.3	32.7	15.2	11.2
33°	1364.6	1175.3	1005.1	860.3	766.3	676.1	564.5	450.8	28.1	12.4	9.6
34°	1299.2	1119.5	962.3	827.7	738.6	640.6	525.7	411.8	24.2	10.7	7.9
35°	1228.3	1057.0	918.4	794.4	707.7	601.2	484.0	370.8	20.9	9.0	6.8
36°	1151.6	998.4	875.6	761.2	669.4	558.4	438.3	328.5	18.1	7.4	6.2
37°	1075.0	943.2	833.3	725.7	624.8	509.9	390.4	284.6	15.8	6.2	5.1
38°	1002.3	889.6	791.6	684.5	573.1	456.4	340.9	240.6	13.5	5.6	4.5
39°	934.2	837.7	748.8	635.5	519.4	404.5	293.0	194.9	11.8	5.1	3.9
40°	872.8	788.8	702.0	580.8	464.3	351.6	244.6	145.3	10.2	3.9	3.4
42.5°	743.1	654.1	539.8	405.1	313.9	203.9	113.9	54.1	7.4	2.8	2.8
45°	490.8	377.5	256.4	152.7	103.0	62.0	46.2	32.7	5.6	2.3	2.3
47.5°	163.9	104.2	76.0	54.6	46.7	37.2	29.8	20.3	3.9	1.7	1.7
50°	62.5	50.7	41.7	31.6	28.1	22.5	18.1	11.8	2.8	1.7	1.7
51°	49.0	40.0	32.7	24.8	22.5	18.1	14.6	10.2	2.3	1.7	1.7
52°	37.7	31.0	25.3	19.1	18.1	14.6	12.4	8.4	2.3	1.1	1.7
53°	28.8	23.7	19.1	14.6	14.1	11.8	10.2	6.8	1.7	1.1	1.7
54°	21.4	18.1	15.2	11.8	11.8	10.2	8.4	5.6	1.7	1.1	1.7
55°	16.3	13.5	11.8	9.0	9.6	8.4	7.4	4.5	1.7	1.1	1.7
57.5°	8.4	7.9	6.8	5.6	6.2	5.6	5.1	2.8	1.7	1.1	1.7
60°	5.1	4.5	3.9	3.4	3.9	3.9	3.9	1.7	1.7	1.1	1.7
61°	3.9	3.4	2.8	2.8	3.4	3.4	3.4	1.7	1.7	1.1	1.7
62°	2.8	2.8	2.3	2.3	3.4	2.8	2.8	1.7	1.7	1.1	1.7
63°	2.3	2.3	2.3	1.7	2.8	2.8	2.8	1.7	1.7	1.1	1.7
64°	1.7	1.7	1.7	1.7	2.3	2.8	2.8	1.1	1.7	1.1	1.7
65°	1.7	1.7	1.1	1.1	2.3	2.3	2.3	1.1	1.7	1.1	1.7
66°	1.1	1.1	1.1	1.1	2.3	2.3	2.3	1.1	1.7	1.1	1.7



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CATALOG NUMBER: LDA4A10930D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	67.5°	90°	112.5°
72.5°	0.5	0.5	0.5	0.5	1.7	1.7	2.3	1.1	1.7	1.7	1.7
75°	0.5	0.5	0.5	0.5	1.7	1.7	2.3	1.1	1.7	1.7	1.7
77.5°	0.5	0.5	0.5	0.5	1.7	1.7	2.3	1.1	1.7	1.7	2.3
80°	0.5	0.5	0.5	0.5	1.7	1.7	2.3	1.1	1.7	1.7	2.3
82.5°	0.5	0.5	0.5	0.5	1.7	1.7	2.3	1.1	1.7	1.7	2.3
85°	0.5	0.5	0.5	0.5	1.7	1.7	2.3	1.1	1.7	1.7	2.3
87.5°	0.5	0.5	0.5	0.5	1.7	1.7	2.3	1.1	1.7	1.7	1.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P1191437

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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	53.0	53.0	53.0
2.5°	40.0	38.3	37.2
5°	34.4	32.7	32.1
7.5°	32.1	31.6	32.1
10°	35.5	37.7	40.5
12.5°	47.4	55.8	60.2
15°	78.3	102.0	112.1
17.5°	138.1	157.2	168.5
20°	121.6	110.9	117.2
22.5°	66.0	57.4	59.1
25°	36.7	31.6	32.1
26°	29.3	25.3	25.3
27°	23.7	20.3	20.3
28°	19.1	16.3	16.3
29°	15.2	13.0	13.0
30°	12.4	10.7	10.7
31°	10.2	8.4	8.4
32°	8.4	7.4	6.8
33°	7.4	6.2	5.6
34°	6.2	5.1	4.5
35°	5.1	3.9	3.9
36°	4.5	3.4	3.4
37°	3.9	2.8	2.8
38°	3.4	2.3	2.3
39°	2.8	2.3	1.7
40°	2.3	1.7	1.1
42.5°	1.7	1.1	0.5
45°	1.7	0.5	0.0
47.5°	1.1	0.5	0.0
50°	1.1	0.0	0.0
51°	1.1	0.0	0.0
52°	1.1	0.0	0.0
53°	0.5	0.0	0.0
54°	1.1	0.0	0.0
55°	0.5	0.0	0.0
57.5°	1.1	0.0	0.0
60°	1.1	0.0	0.0
61°	1.1	0.0	0.0
62°	1.1	0.0	0.0
63°	1.1	0.0	0.0
64°	1.1	0.5	0.0
65°	1.1	0.5	0.0
66°	1.1	0.5	0.0



TEST NUMBER: P1191437

CATALOG NUMBER: LDA4A10930D010TE LAR15SP 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	1.1	0.5	0.0
75°	1.1	0.5	0.0
77.5°	1.1	0.5	0.0
80°	1.1	0.5	0.0
82.5°	1.1	0.5	0.0
85°	1.1	0.5	0.0
87.5°	1.1	0.5	0.0
90°	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



Report Generated By 670245859 / DESKTOP-T8S5UU9

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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.1	1.1
70°	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.1	1.1	0.5	0.5

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67.5°	1.1	0.5	1.1	1.1	1.7	2.3	2.3	1.1	1.7	1.1	1.7
70°	0.5	0.5	0.5	0.5	1.7	1.7	2.3	1.1	1.7	1.1	1.7

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Peachtree City, GA 30269

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67.5°	1.1	0.5	0.0
70°	1.1	0.5	0.0

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(END OF REPORT)