

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: P1191569

Luminaire Tested: **LDA4A15940D010TE LAR25NF 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: P1191569
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25649)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LDA4A15940D010TE LAR25NF 4LA1 30° Tilt
Description: PORTFOLIO 4" Adjustable Reflector, Self-flanged Trim Ring, 25°
Narrow Flood Optic, at 30° tilt
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

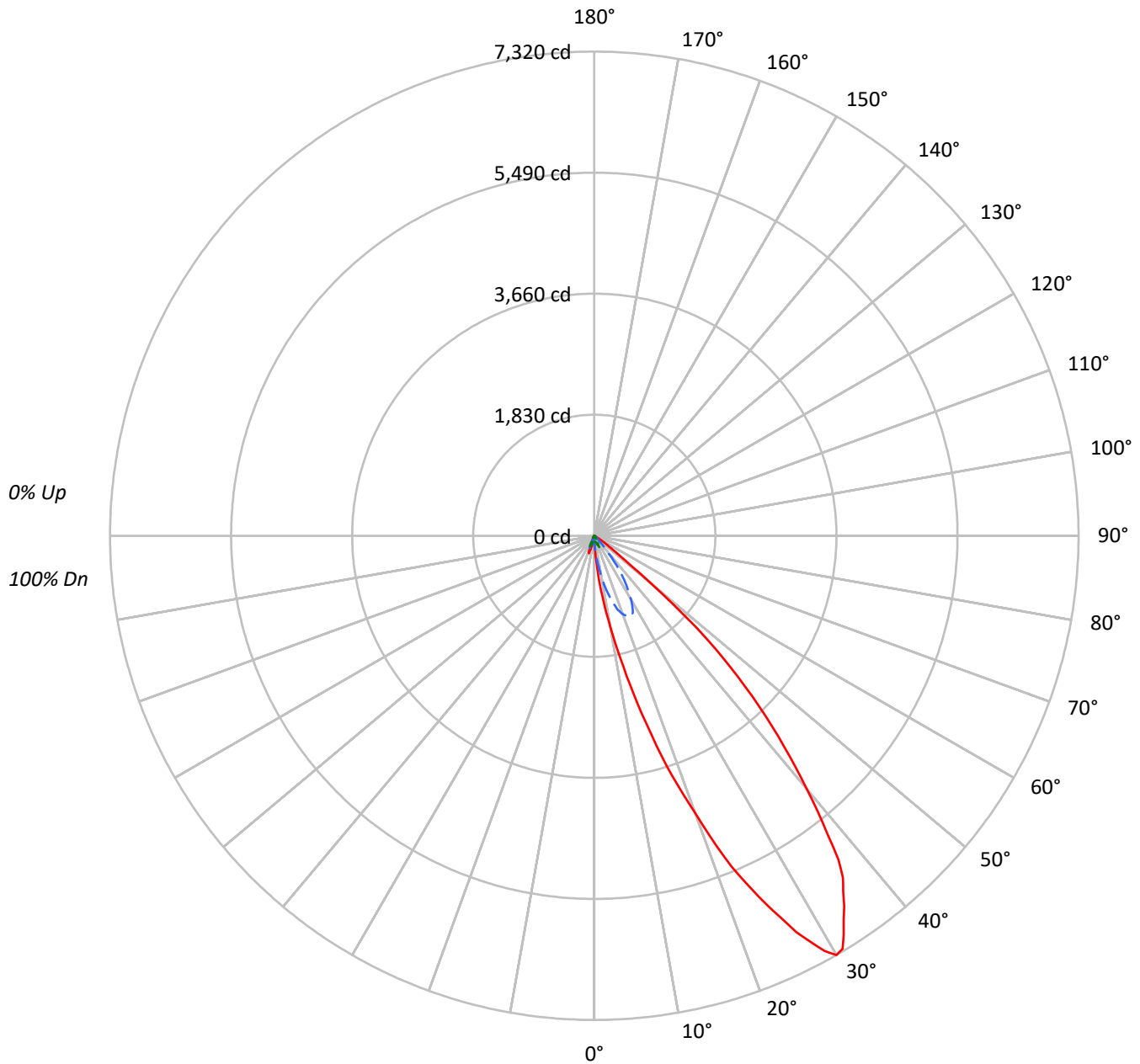
Lumens per Lamp: N/A
Luminaire Lumens: 1695.3 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Spacing Criteria (0/90/45): 2.56 / 1.01 / 1.3
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

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

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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	104	110	107	104	102		103	101	99			99	97	96			96
2	105	100	95	91	103	98	93	90		95	91	88			91	88	86			89
3	99	91	85	80	96	89	84	79		87	82	78			84	80	77			82
4	92	83	76	71	90	82	75	71		79	74	70			77	73	69			75
5	86	76	69	63	84	75	68	63		73	67	62			71	66	62			69
6	80	69	62	57	78	68	61	56		67	61	56			65	60	56			64
7	75	63	56	51	73	63	56	51		61	55	50			60	54	50			59
8	70	58	51	46	68	58	51	46		56	50	46			55	49	45			54
9	65	53	46	41	64	53	46	41		52	46	41			51	45	41			50
10	61	49	42	38	60	49	42	38		48	42	37			47	41	37			46

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	13864	13864	13864
5°	60212	13063	7924
10°	173632	11773	8605
15°	355776	12987	24863
20°	586937	24165	25189
25°	836111	15420	8438
30°	1042511	6765	3304
35°	987802	3057	1461
40°	804534	1562	467
45°	563536	855	0
50°	211177	556	0
55°	44988	624	0
60°	8610	469	0
65°	2539	846	0
70°	685	1046	0
75°	0	1382	0
80°	0	2060	0
85°	0	4104	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	23.6	1.4
10°-20°	203.0	12.0
20°-30°	518.6	30.6
30°-40°	600.6	35.4
40°-50°	309.9	18.3
50°-60°	32.0	1.9
60°-70°	3.4	0.2
70°-80°	2.2	0.1
80°-90°	2.0	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°	745.2	44.0
0°-40°	1345.8	79.4
0°-60°	1687.7	99.6
0°-90°	1695.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1695.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	112	112	112	112	112	
5°	486	253	106	70	64	76
15°	2786	1020	102	136	195	853
25°	6144	1332	113	71	62	2854
35°	6560	728	20	12	10	4017
45°	3231	85	5	3	0	2419
55°	209	12	3	2	0	262
65°	9	3	3	2	0	11
75°	0	2	3	3	0	0
85°	0	2	3	3	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°	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4
2.5°	193.8	187.0	182.2	184.1	194.7	183.1	184.1	180.1	178.2	176.3	171.4
5°	486.3	466.9	454.4	455.3	427.2	448.5	446.6	430.1	419.5	399.1	387.5
7.5°	912.5	870.8	856.4	851.5	854.5	834.0	825.3	804.0	775.9	739.1	717.8
10°	1386.3	1361.0	1352.3	1336.8	1335.8	1300.0	1278.7	1251.5	1195.4	1144.1	1106.3
12.5°	2019.7	1942.2	1928.7	1899.7	1891.9	1830.8	1786.2	1746.6	1652.6	1584.8	1524.7
15°	2786.1	2723.1	2737.5	2648.5	2624.2	2524.5	2441.2	2356.0	2203.8	2100.1	1993.6
17.5°	3655.9	3575.5	3585.1	3473.7	3273.3	3291.7	3170.6	3053.3	2839.2	2700.7	2536.1
20°	4471.5	4414.4	4418.3	4270.1	4202.2	4018.2	3856.4	3716.9	3432.1	3255.8	3037.9
22.5°	5410.2	5262.0	5233.9	5032.4	4913.3	4666.2	4440.6	4255.5	3910.6	3712.1	3444.7
25°	6143.5	6041.9	5964.3	5726.1	5560.4	5238.8	4977.1	4703.1	4288.5	4068.6	3750.8
26°	6418.7	6322.8	6223.0	5966.2	5780.3	5440.2	5155.5	4861.0	4417.2	4181.9	3836.1
27°	6729.6	6572.6	6452.6	6164.9	5963.3	5605.9	5267.9	4989.8	4515.1	4254.6	3890.3
28°	6949.5	6792.6	6633.7	6320.7	6102.8	5728.9	5377.2	5074.1	4572.3	4289.5	3912.6
29°	7175.2	7008.6	6777.0	6436.1	6198.7	5805.4	5440.2	5115.7	4588.8	4287.6	3901.0
30°	7319.6	7152.0	6852.6	6501.0	6250.1	5836.5	5457.7	5107.9	4562.6	4248.7	3858.4
31°	7285.7	7131.6	6834.3	6507.8	6245.2	5818.1	5425.8	5052.8	4496.7	4180.0	3780.8
32°	7116.2	6985.4	6759.7	6462.3	6192.0	5755.1	5351.2	4965.6	4401.8	4099.5	3686.9
33°	6919.5	6811.0	6655.0	6370.2	6099.0	5660.2	5248.5	4858.1	4292.3	3990.1	3573.6
34°	6754.8	6657.0	6512.6	6246.2	5972.1	5533.2	5118.7	4722.4	4167.4	3861.3	3439.9
35°	6560.1	6471.0	6337.2	6078.7	5795.7	5362.8	4955.9	4565.5	4020.1	3708.1	3284.9
36°	6390.6	6250.1	6114.4	5862.6	5580.7	5156.5	4764.1	4381.5	3853.5	3532.9	3110.5
37°	6128.1	5987.6	5842.2	5604.0	5326.0	4920.0	4551.0	4184.9	3663.7	3401.2	2924.5
38°	5735.7	5670.8	5525.5	5298.8	5040.1	4659.4	4317.6	3961.1	3449.6	3146.3	2726.9
39°	5369.6	5316.3	5174.9	4967.5	4728.3	4379.5	4058.9	3709.2	3208.4	2921.6	2518.6
40°	4996.6	4943.3	4810.6	4623.7	4408.6	4087.9	3783.8	3440.9	2955.6	2690.1	2309.5
42.5°	4113.1	4057.9	4029.8	3838.9	3611.3	3336.3	3054.3	2744.3	2331.7	2113.8	1815.4
45°	3230.6	3180.3	3074.7	2996.2	2792.7	2564.2	2334.6	2081.7	1777.6	1562.5	1283.6
47.5°	2309.5	2285.2	2289.0	2143.8	1950.0	1769.9	1579.9	1351.4	1082.0	811.8	595.8
50°	1100.5	1107.3	1134.4	1032.7	887.3	781.8	669.4	525.0	383.6	301.2	233.5
51°	712.9	720.7	744.0	671.3	565.8	494.0	422.3	341.0	272.2	231.5	185.0
52°	482.5	482.5	487.2	444.7	392.3	351.7	310.0	262.5	212.2	182.2	146.3
53°	362.3	361.4	363.3	335.2	299.3	269.3	240.3	205.4	167.6	142.4	113.3
54°	277.1	276.1	278.0	256.8	231.5	209.2	187.0	160.8	129.8	106.5	85.2
55°	209.2	209.2	212.2	195.7	176.3	158.9	142.4	120.1	95.9	77.5	62.0
57.5°	84.3	84.3	87.1	81.4	72.7	65.9	60.0	51.4	42.7	35.9	29.0
60°	34.9	35.9	36.8	34.0	31.9	30.0	28.1	25.2	22.2	18.4	15.5
61°	26.2	26.2	27.1	25.2	24.3	22.2	21.3	19.4	17.5	14.6	12.5
62°	19.4	19.4	20.3	19.4	18.4	17.5	16.5	15.5	13.5	11.6	9.7
63°	14.6	14.6	15.5	14.6	14.6	13.5	12.5	11.6	10.6	8.7	7.8
64°	11.6	11.6	11.6	10.6	10.6	10.6	9.7	9.7	7.8	6.8	5.9
65°	8.7	8.7	8.7	8.7	7.8	7.8	7.8	6.8	6.8	4.9	4.9
66°	6.8	6.8	6.8	5.9	5.9	5.9	5.9	5.9	4.9	3.8	2.9



TEST NUMBER: P1191569

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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	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
75°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
77.5°	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
80°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	1.0	1.0	1.0
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°	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4
2.5°	173.5	172.4	162.7	162.7	166.6	160.8	157.9	151.1	129.8	110.5	93.0
5°	383.6	373.0	340.0	330.3	329.3	302.2	286.8	252.8	148.2	105.5	80.5
7.5°	708.1	676.1	619.9	589.9	553.1	531.8	494.0	436.0	168.5	98.9	72.7
10°	1047.1	1011.3	928.0	874.8	846.7	777.8	715.0	635.5	188.9	94.0	71.7
12.5°	1435.6	1355.2	1275.8	1180.9	1096.6	1035.5	931.0	838.0	202.5	93.0	78.4
15°	1856.1	1755.3	1619.7	1491.8	1372.6	1285.5	1145.0	1020.0	207.3	101.7	102.7
17.5°	2326.8	2137.9	1942.2	1767.8	1604.2	1486.9	1312.6	1165.4	204.4	124.9	163.8
20°	2767.6	2516.7	2251.2	2009.1	1777.6	1625.5	1424.0	1264.1	205.4	184.1	220.9
22.5°	3117.3	2812.1	2488.6	2193.1	1899.7	1717.5	1497.7	1316.5	230.6	196.6	150.1
25°	3375.0	3015.6	2644.5	2304.6	1995.6	1791.1	1549.9	1332.0	215.0	113.3	85.2
26°	3443.7	3065.1	2673.7	2321.1	2007.1	1791.1	1542.1	1315.5	186.0	90.1	70.8
27°	3482.5	3087.3	2678.5	2313.3	1992.7	1770.8	1514.0	1282.5	152.0	75.5	60.0
28°	3487.4	3077.6	2654.2	2281.4	1951.9	1727.2	1463.7	1232.2	125.9	64.0	49.4
29°	3461.2	3041.7	2607.8	2228.1	1890.0	1663.2	1395.0	1170.1	107.6	55.2	41.6
30°	3406.0	2978.7	2537.1	2156.3	1809.6	1585.8	1314.5	1101.4	94.0	47.5	34.9
31°	3326.6	2892.6	2460.6	2071.1	1725.3	1508.3	1239.0	1031.7	83.3	39.7	29.0
32°	3223.9	2790.8	2361.7	1979.1	1649.7	1434.7	1166.3	961.0	74.6	34.0	24.3
33°	3109.5	2675.6	2254.2	1883.2	1577.0	1359.1	1089.8	886.4	66.8	28.1	20.3
34°	2977.8	2548.6	2139.8	1787.3	1499.6	1275.8	1007.5	809.9	58.1	23.2	17.5
35°	2827.6	2407.2	2016.8	1700.0	1413.3	1185.7	921.3	728.5	51.4	20.3	14.6
36°	2665.0	2260.0	1892.9	1600.4	1320.4	1091.7	830.2	646.1	44.6	17.5	12.5
37°	2494.4	2107.0	1768.9	1486.9	1217.7	991.9	736.2	557.0	38.7	14.6	10.6
38°	2314.2	1952.9	1648.8	1379.5	1109.2	884.5	640.4	459.1	34.0	12.5	9.7
39°	2130.1	1800.8	1529.6	1261.2	997.8	778.8	548.3	356.5	30.0	10.6	8.7
40°	1950.0	1657.5	1403.6	1132.4	886.4	675.1	459.1	262.5	26.2	9.7	6.8
42.5°	1544.2	1272.8	1007.5	755.6	618.0	428.2	254.7	137.6	18.4	6.8	4.9
45°	1010.3	752.7	543.4	368.0	319.6	181.1	118.2	85.2	13.5	4.9	3.8
47.5°	418.5	305.2	212.2	153.0	124.0	96.8	75.5	55.2	9.7	3.8	3.8
50°	184.1	145.4	115.2	90.1	78.4	63.0	48.4	34.0	5.9	2.9	2.9
51°	147.3	117.3	90.1	71.7	64.0	51.4	39.7	27.1	5.9	2.9	2.9
52°	116.2	91.1	70.8	55.2	51.4	41.6	33.0	22.2	4.9	2.9	2.9
53°	89.2	68.7	53.3	43.6	40.6	34.0	27.1	18.4	3.8	2.9	2.9
54°	65.9	52.4	41.6	34.0	33.0	27.1	22.2	15.5	3.8	2.9	2.9
55°	48.4	40.6	31.9	27.1	26.2	22.2	18.4	12.5	3.8	2.9	2.9
57.5°	25.2	21.3	17.5	15.5	15.5	14.6	12.5	7.8	2.9	1.9	2.9
60°	13.5	11.6	9.7	8.7	10.6	9.7	8.7	4.9	2.9	1.9	2.9
61°	10.6	9.7	7.8	6.8	8.7	7.8	7.8	3.8	2.9	2.9	2.9
62°	8.7	7.8	6.8	5.9	7.8	6.8	6.8	3.8	2.9	2.9	2.9
63°	6.8	5.9	4.9	4.9	6.8	6.8	5.9	2.9	2.9	2.9	2.9
64°	4.9	4.9	3.8	3.8	5.9	5.9	4.9	2.9	2.9	2.9	2.9
65°	3.8	3.8	2.9	2.9	4.9	4.9	4.9	2.9	2.9	2.9	2.9
66°	2.9	2.9	2.9	1.9	3.8	4.9	4.9	1.9	2.9	2.9	2.9



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CATALOG NUMBER: LDA4A15940D010TE LAR25NF 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°	1.0	1.0	1.0	1.0	2.9	3.8	3.8	1.9	2.9	2.9	2.9
75°	1.0	1.0	1.0	1.0	2.9	3.8	3.8	1.9	2.9	2.9	2.9
77.5°	1.0	1.0	1.0	1.0	2.9	3.8	3.8	1.9	2.9	2.9	3.8
80°	1.0	1.0	1.0	1.0	2.9	3.8	3.8	1.9	2.9	2.9	3.8
82.5°	1.0	1.0	1.0	1.0	2.9	3.8	3.8	1.9	2.9	2.9	3.8
85°	1.0	1.0	1.0	1.0	2.9	3.8	3.8	1.9	2.9	2.9	3.8
87.5°	1.0	1.0	1.0	1.0	2.9	3.8	3.8	1.9	2.9	2.9	3.8
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: LDA4A15940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	112.4	112.4	112.4
2.5°	84.3	79.5	78.4
5°	69.7	64.9	64.0
7.5°	64.0	60.0	59.0
10°	65.9	66.8	68.7
12.5°	84.3	93.0	100.8
15°	135.7	170.5	194.7
17.5°	236.3	261.5	278.0
20°	207.3	190.8	191.9
22.5°	116.2	104.6	103.6
25°	70.8	64.0	62.0
26°	59.0	53.3	51.4
27°	48.4	43.6	41.6
28°	39.7	35.9	34.9
29°	34.0	29.0	28.1
30°	28.1	24.3	23.2
31°	23.2	20.3	19.4
32°	20.3	17.5	15.5
33°	16.5	14.6	13.5
34°	14.6	11.6	10.6
35°	11.6	9.7	9.7
36°	10.6	8.7	7.8
37°	8.7	6.8	6.8
38°	7.8	5.9	4.9
39°	6.8	4.9	3.8
40°	5.9	3.8	2.9
42.5°	3.8	1.9	1.0
45°	2.9	1.0	0.0
47.5°	1.9	1.0	0.0
50°	1.9	0.0	0.0
51°	1.9	0.0	0.0
52°	1.9	0.0	0.0
53°	1.9	0.0	0.0
54°	1.9	0.0	0.0
55°	1.9	0.0	0.0
57.5°	1.9	0.0	0.0
60°	1.9	0.0	0.0
61°	1.9	0.0	0.0
62°	1.9	0.0	0.0
63°	1.9	1.0	0.0
64°	1.9	1.0	0.0
65°	1.9	1.0	0.0
66°	1.9	1.0	0.0



TEST NUMBER: P1191569

CATALOG NUMBER: LDA4A15940D010TE LAR25NF 4LA1 30° Tilt

CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
72.5°	2.9	1.0	0.0
75°	2.9	1.0	0.0
77.5°	2.9	1.0	0.0
80°	2.9	1.0	0.0
82.5°	2.9	1.0	0.0
85°	2.9	1.0	0.0
87.5°	1.9	1.0	0.0
90°	0.0	0.0	0.0

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Scaled Data Report

Cooper Lighting Solutions Photometric Lab

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Peachtree City, GA 30269



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— 0°-180° - - 45°-225° - - - 90°-270°

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67.5°	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	2.9	1.9
70°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.0	1.0

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67.5°	1.9	1.9	1.9	1.9	3.8	3.8	3.8	1.9	2.9	2.9	2.9
70°	1.0	1.0	1.0	1.9	2.9	3.8	3.8	1.9	2.9	2.9	2.9

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67.5°	1.9	1.0	0.0
70°	1.9	1.0	0.0

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(END OF REPORT)