

Classified  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P837931

Luminaire Tested: **ORLG-24-2-INS-ASY2R-LD4-1HI-20-120-EDD-90**

Issue Date: 5/21/2024

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**Test Information**

Test Method: LM-79-08  
Report Number: P837931  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 5/21/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: ORLG-24-2-INS-ASY2R-LD4-1HI-20-120-EDD-90  
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2 and RFI grid  
Light Source: 2000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

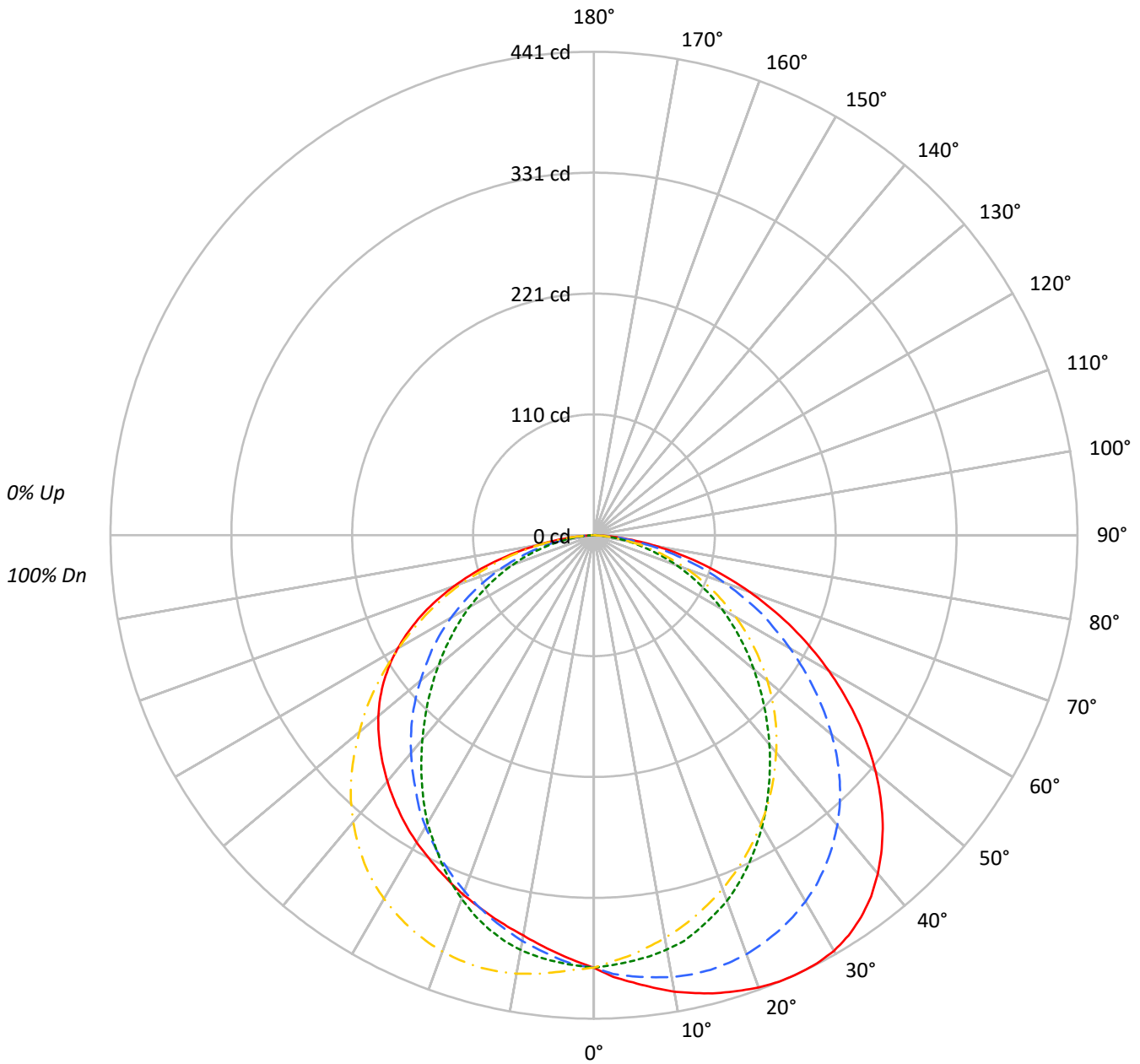
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1157.2 lumens  
Efficiency: N/A  
Efficacy: 52.6 lumens/watt  
Spacing Criteria (0/90/45): 1.43 / 1.16 / 1.4  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 22  
Input Voltage (V): 120  
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



— 0°-180°    - - 45°-225°    - · - 90°-270°    - · · - 135°-315°



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20				20
RC	80				70				50				30				10				0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86	84	84	84	84
2	99	91	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	70	70	70	70
3	90	79	71	65	88	78	70	64	75	68	63	72	66	62	69	65	61	59	59	59	59
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	50	50	50	50
5	76	63	54	47	74	62	53	47	59	52	46	57	51	46	56	50	45	43	43	43	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	38	38	38	38
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33	33	33	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	29	29	29	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26	26	26	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24	24	24	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	1061	1061	1061	1061
5°	1106	1054	1034	1055
10°	1156	1048	1013	1050
15°	1205	1035	1003	1035
20°	1257	1016	999	1010
25°	1310	988	999	978
30°	1360	953	1005	943
35°	1396	914	1015	900
40°	1415	875	1029	855
45°	1418	835	1049	814
50°	1405	797	1075	776
55°	1375	761	1099	740
60°	1332	724	1114	706
65°	1272	682	1108	666
70°	1189	632	1068	620
75°	1070	564	980	560
80°	907	473	824	479
85°	630	312	522	321

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Scaled Data Report

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.4	3.2
10°-20°	108.4	9.4
20°-30°	166.2	14.4
30°-40°	202.1	17.5
40°-50°	210.1	18.2
50°-60°	189.8	16.4
60°-70°	144.3	12.5
70°-80°	80.4	7.0
80°-90°	18.5	1.6
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°	312.1	27.0
0°-40°	514.2	44.4
0°-60°	914.0	79.0
0°-90°	1157.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1157.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	394	394	394	394	394	
5°	410	390	383	391	410	39
15°	432	372	360	372	432	123
25°	441	333	336	329	441	204
35°	425	278	309	274	425	265
45°	372	219	276	214	372	287
55°	293	162	234	158	293	262
65°	200	107	174	105	200	197
75°	103	54	94	54	103	109
85°	20	10	17	10	20	26
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4
2.5°	403.2	397.3	397.4	402.5	398.6	400.5	395.0	397.1	396.5	396.9	392.4
5°	409.5	403.2	403.1	407.5	403.1	403.9	396.9	398.3	396.3	395.0	390.1
7.5°	416.2	409.9	409.2	413.1	407.3	406.7	398.9	398.9	395.3	392.0	387.4
10°	422.9	416.3	415.5	418.4	411.3	409.2	399.8	398.3	393.4	388.6	383.7
12.5°	427.8	421.2	420.6	422.4	414.3	410.4	399.8	396.9	389.7	383.0	379.2
15°	432.5	425.7	424.0	424.9	415.6	410.4	398.5	394.1	384.9	376.0	371.5
17.5°	435.8	429.3	427.6	427.5	416.2	408.9	395.7	389.6	378.6	367.9	363.4
20°	439.1	432.6	430.4	428.7	416.1	406.8	391.7	383.5	370.6	358.6	354.9
22.5°	440.8	434.1	431.7	429.2	414.9	402.9	386.7	376.3	361.6	347.3	344.2
25°	441.1	434.2	431.6	428.0	412.5	398.3	380.3	367.7	351.2	335.4	332.7
27.5°	440.3	432.8	430.2	425.9	408.9	392.7	372.6	357.8	340.1	322.7	319.8
30°	437.8	430.1	427.6	422.0	403.8	385.8	364.3	346.9	327.9	309.3	306.8
32.5°	432.6	425.2	423.1	417.5	398.3	377.8	354.5	335.1	314.4	296.6	292.9
35°	425.1	417.6	416.3	410.4	390.6	368.2	343.8	322.2	300.0	281.9	278.3
37.5°	415.2	409.0	407.0	401.2	381.5	357.4	331.6	308.2	285.4	265.9	263.7
40°	402.8	396.9	395.4	390.3	370.9	345.3	318.3	293.8	270.3	252.2	249.1
42.5°	388.6	383.1	382.3	376.9	357.8	332.0	304.0	278.8	254.6	237.1	234.0
45°	372.5	367.2	367.0	362.0	343.6	317.1	288.9	263.6	239.2	221.1	219.4
47.5°	354.8	350.0	350.0	345.3	327.6	300.9	273.3	247.8	223.8	207.7	204.8
50°	335.5	330.9	329.6	327.3	310.1	283.1	257.0	232.3	208.5	193.2	190.4
52.5°	314.8	311.0	311.9	307.7	291.0	264.6	240.4	214.9	193.1	179.2	176.4
55°	293.1	287.6	288.4	286.9	271.1	245.6	221.8	200.6	178.0	165.0	162.3
57.5°	270.6	263.4	266.4	265.4	250.0	226.1	204.8	184.3	163.0	151.0	148.4
60°	247.5	240.6	243.6	242.8	228.3	206.6	187.2	168.2	148.1	137.2	134.6
62.5°	223.8	217.4	220.2	219.5	206.2	186.6	169.8	152.3	133.1	123.3	120.9
65°	199.8	193.8	196.2	195.8	183.5	168.6	151.8	135.8	118.0	109.5	107.1
67.5°	175.4	169.8	172.1	172.1	160.7	146.5	133.8	119.1	103.2	95.9	93.7
70°	151.1	145.8	147.9	147.7	138.1	126.5	115.6	102.5	88.2	82.2	80.3
72.5°	126.6	122.0	123.8	123.7	115.7	108.2	97.3	86.0	73.6	68.7	67.1
75°	102.9	98.5	100.3	100.1	93.6	86.6	79.3	69.9	59.3	55.8	54.2
77.5°	80.2	75.8	77.3	77.3	72.5	67.4	61.6	54.4	46.8	43.2	42.0
80°	58.5	56.4	55.7	55.8	52.5	49.2	46.3	39.3	33.8	31.3	30.5
82.5°	38.5	36.7	36.0	36.2	34.3	32.3	30.5	25.6	21.9	20.4	20.0
85°	20.4	19.1	18.5	19.0	18.6	17.5	16.6	13.2	10.9	10.4	10.1
87.5°	6.4	5.6	5.2	6.8	5.8	5.2	5.0	4.0	3.0	3.0	2.9
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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4
2.5°	393.9	393.9	390.3	389.5	389.1	389.6	386.0	385.3	390.5	388.7	384.8
5°	390.7	390.6	385.5	384.6	384.6	384.0	380.0	379.1	384.2	382.7	378.4
7.5°	386.9	386.3	380.4	379.7	378.8	378.4	373.9	373.3	377.7	376.8	372.7
10°	382.2	381.6	374.6	374.1	373.1	372.3	368.1	367.7	372.2	370.7	367.5
12.5°	376.0	375.0	367.7	367.3	366.5	366.2	362.0	361.9	366.8	365.4	362.0
15°	367.9	367.1	359.0	359.2	359.3	359.3	356.0	355.8	360.7	360.0	356.3
17.5°	359.0	357.9	350.2	350.7	351.4	352.1	349.5	350.0	355.1	354.3	351.0
20°	348.9	347.8	340.2	341.8	343.2	344.7	343.0	344.3	349.1	348.7	346.2
22.5°	337.6	336.5	329.5	331.9	334.2	336.9	336.2	337.7	342.7	342.6	340.4
25°	323.8	324.0	317.9	320.8	324.7	328.6	328.8	331.2	336.8	336.3	334.3
27.5°	310.9	311.3	304.7	309.7	314.8	319.8	321.0	324.3	330.0	329.6	327.8
30°	297.4	297.8	291.5	298.3	304.5	310.6	313.2	317.7	323.5	323.5	321.7
32.5°	283.3	284.1	277.5	286.6	293.9	301.0	305.5	310.2	316.8	316.6	315.0
35°	268.8	269.8	263.7	275.3	282.6	291.2	296.8	303.1	309.0	309.0	307.9
37.5°	254.1	255.2	249.7	262.4	270.7	280.9	288.1	294.3	300.9	301.2	300.1
40°	239.5	240.7	235.9	248.1	258.6	270.0	278.3	285.7	292.9	293.0	292.3
42.5°	224.9	226.2	222.6	234.5	246.4	258.6	268.4	276.8	284.1	284.6	283.7
45°	210.6	211.7	209.1	222.2	233.6	246.9	258.2	267.6	275.1	275.7	275.5
47.5°	196.4	197.4	195.1	207.1	220.3	234.4	247.4	257.9	265.8	266.5	266.4
50°	182.5	183.4	180.9	193.4	206.5	221.6	235.1	247.2	256.1	256.8	256.7
52.5°	168.7	169.6	167.5	180.6	192.5	208.4	223.1	236.3	245.0	246.1	246.3
55°	155.4	155.8	154.1	166.7	178.2	194.9	211.8	224.6	233.3	234.2	234.8
57.5°	142.1	142.1	140.8	152.8	163.9	180.9	198.6	212.1	220.4	221.3	222.1
60°	128.8	128.7	127.2	138.8	149.4	166.3	184.7	198.1	206.1	206.9	208.0
62.5°	115.7	115.4	114.0	124.8	134.7	151.3	169.9	182.8	190.5	191.0	192.5
65°	102.6	102.3	101.0	111.0	120.0	135.9	154.1	166.3	173.2	174.0	173.7
67.5°	89.7	89.2	88.1	97.1	105.3	120.0	137.5	149.1	154.8	155.5	157.2
70°	76.8	76.2	73.9	83.4	90.5	103.7	120.0	130.4	135.2	135.8	135.5
72.5°	64.1	63.5	61.0	69.7	75.8	87.3	101.9	110.5	114.6	115.2	115.2
75°	51.8	51.4	49.9	56.5	61.6	70.9	83.3	90.4	93.7	94.3	94.1
77.5°	39.9	39.7	38.1	43.8	47.8	54.7	64.7	70.3	72.7	73.4	75.0
80°	28.6	28.5	26.0	31.7	33.4	39.3	46.6	50.9	52.2	53.2	54.3
82.5°	18.3	18.4	15.9	20.7	21.4	25.2	29.7	32.4	33.3	34.1	35.0
85°	8.9	9.3	7.9	10.9	11.0	13.0	14.9	15.9	16.3	16.9	17.7
87.5°	2.3	2.7	1.5	3.1	2.8	3.6	4.1	4.4	4.3	4.8	5.1
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):**

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4
2.5°	386.1	389.0	387.5	392.3	394.2	391.2	396.4	396.5	392.8	397.1	399.5
5°	380.1	383.1	382.2	387.2	389.5	386.9	393.1	394.3	390.7	395.6	399.5
7.5°	374.0	377.6	376.4	381.5	384.2	382.2	388.9	390.8	388.1	393.4	398.6
10°	368.8	371.8	370.5	375.8	378.2	376.6	383.2	386.8	384.2	390.7	396.9
12.5°	363.6	366.1	364.6	369.0	371.3	369.2	377.3	380.6	378.8	385.6	393.5
15°	357.0	359.7	357.7	361.7	363.4	361.6	368.2	373.9	371.6	379.1	387.8
17.5°	351.9	353.5	350.7	353.9	354.9	352.4	359.1	364.7	363.1	371.2	381.3
20°	346.3	347.6	343.7	345.5	345.4	342.3	348.4	353.9	352.8	361.8	373.3
22.5°	340.1	340.7	336.2	336.6	336.4	331.2	336.7	342.4	341.9	350.9	363.8
25°	333.4	333.5	327.7	327.5	325.5	319.4	324.3	330.7	329.3	339.0	352.6
27.5°	326.9	326.0	319.0	317.3	314.1	306.8	311.2	316.9	316.0	325.6	340.6
30°	319.9	318.7	310.2	307.1	302.4	294.1	297.6	303.0	303.4	311.8	327.5
32.5°	313.3	310.2	300.8	296.4	290.5	280.7	282.6	288.1	288.8	297.3	313.5
35°	304.7	302.7	291.0	283.5	277.7	267.0	269.0	272.8	273.9	282.2	298.7
37.5°	296.6	293.4	281.0	271.8	264.3	253.1	253.7	257.5	258.6	267.0	283.3
40°	288.3	283.7	270.3	259.5	251.0	239.2	238.6	242.6	243.4	251.6	266.4
42.5°	279.3	273.8	258.8	247.0	237.2	225.2	223.9	227.4	228.4	236.4	250.8
45°	270.3	263.7	247.0	234.2	223.4	211.2	209.9	212.5	213.9	221.5	235.4
47.5°	260.7	253.0	234.9	220.5	209.4	197.2	195.6	198.3	199.4	206.8	220.0
50°	250.7	241.3	222.4	206.6	195.5	183.5	181.2	184.3	185.3	192.3	205.2
52.5°	239.7	229.3	209.0	192.5	181.4	169.9	167.2	170.2	171.4	178.2	190.1
55°	228.0	216.8	195.6	179.5	167.5	156.3	154.0	155.2	157.8	164.2	175.3
57.5°	214.8	203.7	181.4	165.1	153.6	142.8	140.9	142.0	144.4	150.6	160.6
60°	200.8	189.1	167.0	150.6	139.5	129.3	127.5	128.5	131.1	136.8	146.0
62.5°	187.0	173.8	152.1	135.8	125.7	116.2	115.7	115.4	117.8	123.3	131.4
65°	170.3	157.6	136.5	121.1	111.9	103.3	101.5	102.3	104.6	109.7	118.1
67.5°	152.4	140.9	120.6	106.4	98.2	90.5	89.0	89.3	91.7	96.1	103.5
70°	133.3	123.2	104.3	91.5	84.6	77.5	76.5	76.5	78.8	82.7	89.2
72.5°	113.4	104.2	87.9	76.9	71.2	66.1	65.1	64.0	66.2	69.5	75.0
75°	93.0	85.0	71.5	62.6	58.1	53.7	52.9	51.8	53.9	56.8	61.1
77.5°	72.5	66.1	55.6	48.7	45.2	42.0	41.2	40.0	42.1	44.3	47.7
80°	52.4	47.8	41.5	34.2	33.0	30.9	30.2	28.9	30.9	32.3	34.9
82.5°	33.9	30.7	27.1	22.1	21.9	20.3	20.0	18.5	20.3	21.2	23.1
85°	17.1	15.6	14.7	11.2	11.6	10.6	10.5	8.9	10.4	10.8	11.9
87.5°	4.9	5.2	4.6	2.8	3.5	3.3	3.3	2.4	3.3	3.3	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



Cooper Lighting Solutions Photometric Lab  
 1121 Highway 74 South  
 Peachtree City, GA 30269



TEST NUMBER: P837931

CATALOG NUMBER: ORLG-24-2-INS-ASY2R-LD4-1HI-20-120-EDD-90

**CANDELA DISTRIBUTION (continued):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	394.4	394.4	394.4	394.4	394.4	394.4	394.4	394.4
2.5°	394.8	396.4	396.7	396.6	397.6	403.2	401.3	403.2
5°	395.7	399.2	400.1	401.4	403.1	409.3	407.3	409.5
7.5°	396.3	401.5	403.5	406.0	408.7	415.7	414.0	416.2
10°	396.3	403.1	406.0	410.2	413.8	421.8	420.3	422.9
12.5°	394.6	403.4	407.5	413.3	417.9	426.6	426.0	427.8
15°	391.2	402.0	407.7	415.1	420.8	430.6	430.3	432.5
17.5°	386.6	399.6	406.5	415.9	423.0	434.0	434.6	435.8
20°	380.8	395.1	404.1	415.6	424.6	436.7	437.5	439.1
22.5°	373.2	389.6	400.5	414.4	424.8	437.8	439.2	440.8
25°	364.2	383.1	395.8	412.1	423.9	437.7	439.7	441.1
27.5°	353.9	374.6	389.8	408.4	421.3	436.2	438.7	440.3
30°	341.9	365.6	383.0	403.6	417.8	433.4	436.1	437.8
32.5°	329.6	355.7	374.9	397.5	412.7	429.0	431.3	432.6
35°	316.1	343.6	365.2	389.6	406.2	421.9	423.7	425.1
37.5°	301.5	330.6	354.0	380.6	397.0	412.1	413.7	415.2
40°	286.4	316.9	341.5	369.7	386.1	400.0	401.7	402.8
42.5°	271.2	301.7	328.2	356.8	373.1	386.5	387.5	388.6
45°	255.9	286.0	313.2	342.5	358.6	371.2	371.6	372.5
47.5°	240.2	269.7	296.7	326.3	342.2	353.7	354.0	354.8
50°	224.5	253.4	279.1	308.7	324.2	336.4	334.7	335.5
52.5°	209.0	236.3	262.6	289.7	305.1	315.9	316.3	314.8
55°	193.9	219.5	243.7	269.9	284.5	292.9	292.6	293.1
57.5°	178.5	202.6	224.8	248.7	263.0	270.9	272.5	270.6
60°	162.9	185.5	205.4	227.0	240.8	247.4	249.3	247.5
62.5°	147.3	168.1	186.1	205.0	217.8	226.0	225.8	223.8
65°	131.8	150.6	166.7	182.7	193.9	202.0	201.7	199.8
67.5°	117.4	132.9	147.4	160.4	170.0	175.6	177.6	175.4
70°	101.6	115.0	127.7	138.1	146.1	151.2	153.0	151.1
72.5°	85.7	97.2	106.1	116.1	122.3	126.5	128.4	126.6
75°	70.1	79.5	86.8	94.6	98.9	102.5	104.7	102.9
77.5°	54.9	62.2	68.0	73.7	78.7	79.5	81.4	80.2
80°	40.5	45.7	50.0	53.7	57.3	57.7	59.3	58.5
82.5°	27.0	30.5	31.6	35.5	37.8	37.4	39.0	38.5
85°	14.3	16.4	18.3	19.5	20.8	19.6	21.0	20.4
87.5°	4.8	5.1	4.4	6.3	6.9	5.9	6.7	6.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)