

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: P550590

Luminaire Tested: **FCC-X-2-LD4-1HI-40-UNV-82-87-ED1D**

Issue Date: 7/9/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P550590  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2105-248-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FCC-X-2-LD4-1HI-40-UNV-82-87-ED1D  
Description: FCC CORNER MOUNT LUMINAIRE WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES AND 4000K, AND 80 CRI LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

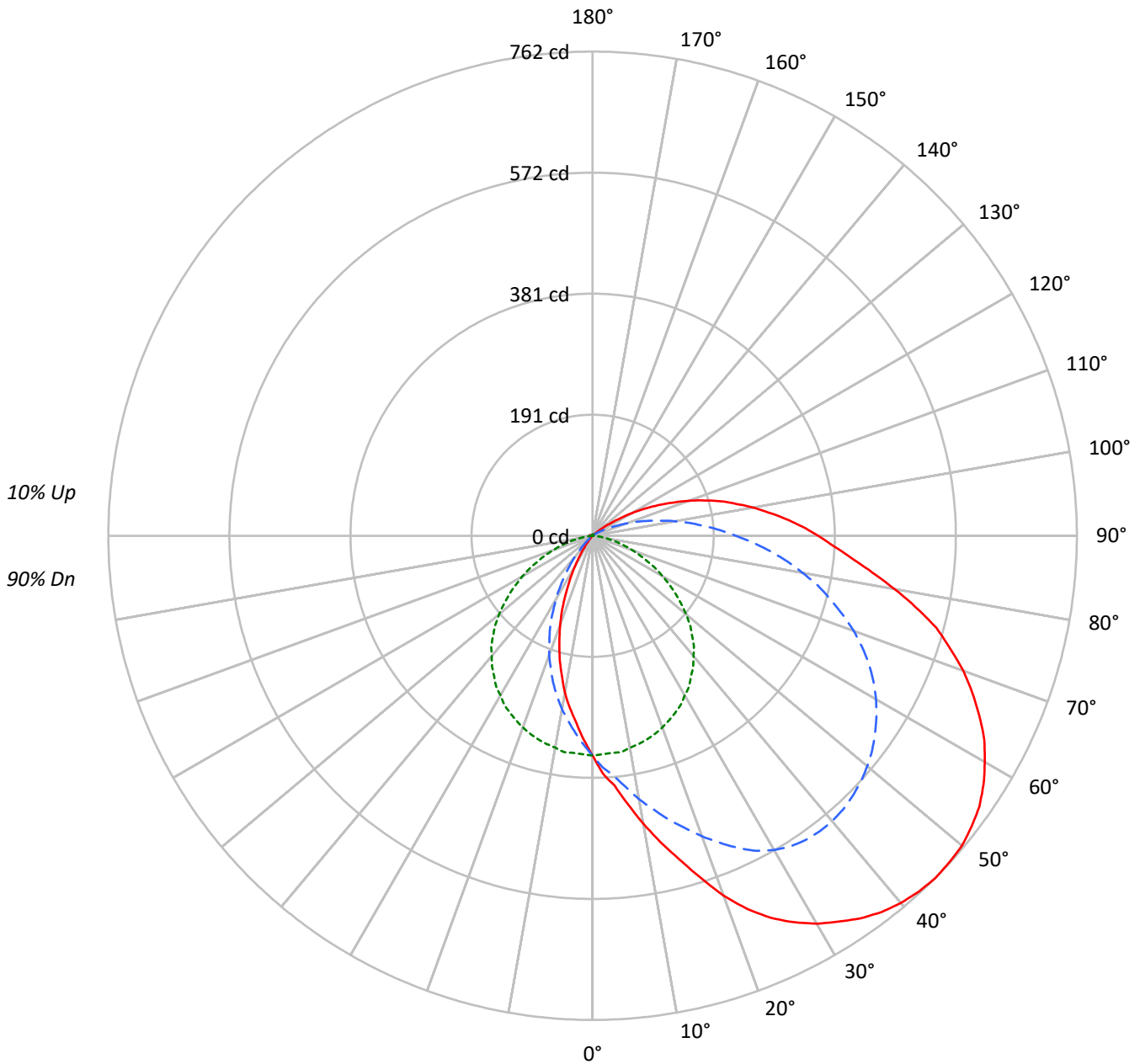
Lumens per Lamp: N/A  
Luminaire Lumens: 1709.0 lumens  
Efficiency: N/A  
Efficacy: 78.8 lumens/watt  
Spacing Criteria (0/90/45): 1.66 / 1.25 / 1.59  
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 0.5' x H: 0.25')  
CIE Type: Semi-Direct

Input Watts (W): 21.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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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CATALOG NUMBER: FCC-X-2-LD4-1HI-40-UNV-82-87-ED1D

### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
RC	80									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	117	117	117	117	113	113	113	113	105	105	105	99	99	99	93	93	93	90																			
1	103	96	91	86	99	93	88	83	87	83	79	81	78	74	76	73	70	67																			
2	92	82	74	67	88	79	72	65	74	67	62	69	64	59	64	60	56	53																			
3	83	71	61	54	79	68	60	53	64	56	50	59	53	48	55	50	46	43																			
4	75	62	52	44	72	60	51	44	56	48	42	52	45	40	49	43	38	36																			
5	69	55	45	38	66	53	44	37	50	42	35	46	39	34	43	38	33	30																			
6	63	49	39	32	61	47	38	32	44	36	31	42	35	29	39	33	28	26																			
7	58	44	35	28	56	43	34	28	40	32	27	38	31	26	36	29	25	23																			
8	54	40	31	25	52	39	30	24	37	29	24	34	28	23	32	26	22	20																			
9	51	36	28	22	49	35	27	22	33	26	21	32	25	20	30	24	20	18																			
10	47	33	25	20	45	33	25	19	31	24	19	29	23	18	28	22	18	16																			

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

	0°	90°	180°
0°	3721	3721	3721
5°	4085	3666	3059
10°	4622	3621	2521
15°	5180	3575	1964
20°	5843	3517	1447
25°	6391	3450	950
30°	6800	3360	535
35°	7154	3261	236
40°	7467	3141	56
45°	7736	2992	0
50°	7962	2792	0
55°	8134	2538	0
60°	8220	2244	0
65°	8254	1910	0
70°	8227	1558	0
75°	8122	1149	6
80°	7793	704	36
85°	7531	336	48



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	33.1	1.9
10°-20°	99.2	5.8
20°-30°	160.6	9.4
30°-40°	206.2	12.1
40°-50°	233.5	13.7
50°-60°	241.9	14.2
60°-70°	228.1	13.3
70°-80°	191.2	11.2
80°-90°	138.6	8.1
90°-100°	91.1	5.3
100°-110°	52.6	3.1
110°-120°	23.2	1.4
120°-130°	6.3	0.4
130°-140°	1.4	0.1
140°-150°	0.9	0.1
150°-160°	0.7	0.0
160°-170°	0.4	0.0
170°-180°	0.1	0.0
0°-30°	292.8	17.1
0°-40°	499.1	29.2
0°-60°	974.4	57.0
0°-90°	1532.3	89.7
90°-120°	166.9	9.8
90°-150°	175.6	10.3
90°-180°	177.0	10.4
0°-180°	1709.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	346	346	346	346	346	
5°	395	379	343	311	296	40
15°	527	462	332	240	200	152
25°	664	542	307	158	99	307
35°	735	585	270	77	24	461
45°	762	579	221	18	0	589
55°	743	542	159	0	0	663
65°	672	480	95	0	0	664
75°	560	387	40	0	0	587
85°	410	281	7	2	3	350
90°	355	225	2	3	3	195
95°	305	176	1	3	4	239
105°	210	91	1	2	4	221
115°	114	30	1	1	2	114
125°	34	4	2	1	2	34
135°	2	1	2	2	1	3
145°	0	2	2	1	1	0
155°	1	2	2	1	0	0
165°	1	1	2	1	0	0
175°	1	2	2	1	0	0
180°	1	1	1	1	1	



TEST NUMBER: P550590

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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	345.7	345.7	345.7	345.7	345.7	345.7	345.7	345.7	345.7	345.7	345.7
2.5°	374.8	374.3	373.0	370.8	367.7	362.4	358.0	354.1	348.8	344.4	336.0
5°	394.6	392.4	390.6	388.4	381.4	376.5	368.6	359.8	351.4	343.0	326.3
7.5°	426.3	422.8	420.1	413.9	404.3	393.2	380.9	372.6	366.8	343.5	314.9
10°	460.2	457.1	451.8	440.8	428.9	413.1	395.5	375.6	358.0	338.6	304.7
12.5°	493.7	489.2	481.8	467.7	450.9	431.1	406.9	383.6	358.5	335.6	292.8
15°	527.1	522.3	514.4	497.2	475.2	449.2	419.7	390.2	360.7	331.6	280.5
17.5°	563.7	557.1	545.2	525.8	498.1	465.9	431.1	395.5	359.8	326.8	267.3
20°	602.9	593.6	580.8	554.9	522.3	484.4	442.6	400.7	359.3	321.0	252.3
22.5°	635.5	626.2	612.1	585.3	546.1	499.8	452.3	404.3	357.6	314.4	238.2
25°	663.6	656.1	640.7	609.9	568.5	516.1	461.5	406.9	354.9	307.4	223.3
27.5°	685.7	678.6	661.4	629.7	587.5	530.6	468.6	408.2	351.4	300.3	207.9
30°	705.0	698.0	677.3	644.7	600.2	542.1	475.6	408.7	347.0	289.8	191.1
32.5°	720.0	713.4	692.3	657.5	609.0	550.0	479.6	408.2	341.3	282.3	173.1
35°	735.0	728.4	703.7	666.7	615.6	553.5	482.6	406.0	334.2	269.9	155.9
37.5°	746.4	738.9	713.8	672.9	618.7	554.4	482.2	402.9	326.8	259.8	138.7
40°	754.4	746.4	719.6	676.4	619.6	553.1	478.7	397.7	317.9	247.0	120.7
42.5°	759.6	750.8	722.2	681.7	617.8	549.6	473.4	391.0	308.3	236.0	103.5
45°	762.3	753.0	722.6	677.3	614.8	543.0	465.5	382.7	297.7	221.1	86.3
47.5°	761.0	750.8	720.4	672.4	609.0	535.9	456.7	372.6	284.9	207.9	70.0
50°	758.8	748.2	715.6	666.3	601.1	527.1	447.0	360.2	271.7	191.6	55.5
52.5°	751.7	741.1	710.3	657.5	591.9	517.0	433.8	347.5	257.6	175.7	42.3
55°	742.9	733.2	701.1	649.5	580.0	504.7	421.4	333.8	244.0	159.4	30.4
57.5°	729.3	720.4	689.6	636.8	568.1	491.0	407.8	318.8	226.8	143.1	21.1
60°	712.5	703.7	673.8	622.2	554.4	475.6	392.8	303.4	211.4	126.8	13.2
62.5°	694.9	686.5	655.3	604.2	537.3	459.3	376.5	288.0	195.1	111.9	7.9
65°	671.6	663.6	635.5	582.6	518.3	441.7	358.5	269.5	178.3	95.1	4.4
67.5°	646.9	639.9	611.2	562.8	496.3	422.3	340.0	251.5	160.7	80.6	2.2
70°	620.5	611.7	585.3	535.9	473.8	400.3	319.7	233.0	144.0	66.5	0.0
72.5°	589.7	583.0	557.5	510.8	447.9	377.0	299.0	212.7	125.5	52.8	0.4
75°	559.7	551.3	528.0	484.0	422.3	352.3	276.1	193.8	107.5	40.5	0.4
77.5°	521.0	518.3	496.3	453.6	398.1	328.5	251.0	170.9	90.3	29.1	0.4
80°	482.2	479.6	462.4	423.2	369.9	300.3	227.7	149.3	73.5	19.4	0.4
82.5°	443.9	440.4	424.1	391.5	341.3	276.6	203.5	127.7	58.1	11.9	0.4
85°	409.5	405.1	387.5	357.6	311.8	249.7	178.3	106.6	43.2	6.6	0.9
87.5°	380.0	377.0	357.6	326.8	281.8	224.6	156.3	86.3	30.4	3.1	1.3
90°	354.9	348.3	331.2	298.6	253.7	196.8	133.0	69.1	20.3	1.8	1.8
92.5°	330.3	324.6	305.6	272.1	228.6	173.1	110.5	52.8	12.8	0.9	2.2
95°	304.7	298.6	280.1	249.2	203.0	148.8	90.7	38.8	7.0	0.9	2.2
97.5°	279.6	273.9	254.5	223.7	180.1	127.7	71.8	27.3	3.5	0.9	1.8
100°	256.3	249.7	232.1	201.2	157.2	106.6	55.5	17.6	2.2	0.9	1.8
102.5°	231.6	226.3	208.3	178.3	133.4	86.8	41.4	11.0	0.9	0.9	1.3
105°	209.6	203.0	185.4	154.6	113.6	68.3	29.1	6.6	0.9	0.9	1.3



TEST NUMBER: P550590

CATALOG NUMBER: FCC-X-2-LD4-1HI-40-UNV-82-87-ED1D

**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
112.5°	136.5	131.2	115.8	89.8	57.7	26.9	7.9	1.3	1.3	1.3	1.3
115°	114.1	106.1	92.5	69.6	42.7	17.6	4.0	1.3	1.3	1.3	1.3
117.5°	91.2	84.6	74.9	52.8	28.2	11.4	2.2	1.3	1.3	1.3	1.3
120°	71.3	65.2	54.2	36.6	18.9	6.6	0.9	1.3	1.3	1.3	1.3
122.5°	51.1	46.2	36.6	23.8	11.4	3.1	1.3	1.3	1.8	1.8	1.3
125°	33.9	31.3	24.2	14.5	7.0	1.3	1.3	1.3	1.8	1.8	1.3
127.5°	22.0	19.8	14.1	8.4	3.1	1.3	1.3	1.8	1.8	1.8	1.3
130°	12.3	11.0	8.4	4.8	1.3	1.3	1.3	1.8	1.8	1.8	1.3
132.5°	7.0	6.6	4.4	0.9	1.3	1.3	1.3	1.8	1.8	1.8	1.8
135°	1.8	0.9	0.9	0.9	1.3	1.3	1.8	1.8	2.2	2.2	1.8
137.5°	0.4	0.4	0.9	0.9	1.3	1.3	1.8	2.2	2.2	2.2	1.8
140°	0.4	0.4	0.9	1.3	1.3	1.3	1.8	2.2	2.2	2.2	1.8
142.5°	0.4	0.9	0.9	1.3	1.3	1.8	1.8	2.2	2.2	1.8	1.8
145°	0.4	0.9	0.9	1.3	1.3	1.8	1.8	2.2	1.8	1.8	1.8
147.5°	0.9	0.9	0.9	1.3	1.3	1.8	1.8	2.2	2.2	1.8	1.8
150°	0.4	0.9	0.9	1.3	1.8	1.8	1.8	2.2	1.8	1.8	1.8
152.5°	0.4	0.9	0.9	1.3	1.8	1.8	1.8	2.2	1.8	1.8	1.8
155°	0.9	0.9	0.9	1.3	1.8	1.8	1.8	2.2	1.8	1.8	2.2
157.5°	0.9	0.9	0.9	1.3	1.8	1.8	1.8	2.2	1.8	1.8	2.2
160°	0.9	0.9	0.9	1.3	1.3	1.8	1.8	1.8	1.8	1.8	1.8
162.5°	0.9	0.9	0.9	1.3	1.3	1.8	1.8	1.8	1.8	1.8	1.8
165°	0.9	0.9	0.9	0.9	1.3	1.3	1.8	1.8	1.8	1.8	1.8
167.5°	0.9	0.9	0.9	1.3	1.3	1.3	1.8	1.8	1.8	1.8	1.8
170°	0.9	0.9	0.9	1.3	1.3	1.3	1.8	2.2	2.2	2.2	2.2
172.5°	0.9	0.9	0.9	1.3	1.3	1.8	1.8	2.2	2.2	2.2	2.2
175°	0.9	0.9	0.9	1.3	1.3	1.8	1.8	2.2	2.2	2.2	2.2
177.5°	0.4	0.9	0.9	1.3	1.3	1.8	1.8	2.2	2.2	2.2	1.8
180°	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3



TEST NUMBER: P550590

CATALOG NUMBER: FCC-X-2-LD4-1HI-40-UNV-82-87-ED1D

**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	345.7	345.7	345.7
2.5°	329.0	322.8	321.0
5°	311.3	301.2	295.5
7.5°	293.7	280.1	273.5
10°	277.4	258.1	251.0
12.5°	258.1	235.6	224.6
15°	239.6	210.5	199.9
17.5°	218.9	186.3	173.9
20°	199.5	162.1	149.3
22.5°	177.5	138.3	124.2
25°	157.7	114.5	98.6
27.5°	135.6	90.3	76.6
30°	114.9	69.1	55.5
32.5°	95.1	50.6	38.3
35°	76.6	34.3	24.2
37.5°	59.0	21.1	12.3
40°	42.7	11.0	5.7
42.5°	28.6	5.3	3.1
45°	17.6	2.6	0.0
47.5°	10.1	0.0	0.0
50°	5.3	0.0	0.0
52.5°	2.2	0.0	0.0
55°	0.0	0.0	0.0
57.5°	0.0	0.0	0.0
60°	0.0	0.0	0.0
62.5°	0.0	0.0	0.0
65°	0.0	0.0	0.0
67.5°	0.0	0.0	0.0
70°	0.0	0.0	0.0
72.5°	0.0	0.0	0.0
75°	0.4	0.4	0.4
77.5°	0.4	0.9	1.3
80°	0.9	1.8	2.2
82.5°	1.8	2.2	2.2
85°	1.8	2.2	2.6
87.5°	2.2	2.6	3.1
90°	2.6	3.1	3.1
92.5°	2.6	3.5	3.5
95°	3.1	3.5	4.0
97.5°	3.5	4.0	4.0
100°	3.1	4.0	4.4
102.5°	2.6	4.0	4.0
105°	2.2	3.1	3.5





TEST NUMBER: P550590

CATALOG NUMBER: FCC-X-2-LD4-1HI-40-UNV-82-87-ED1D

**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
112.5°	1.8	2.2	2.2
115°	1.3	1.8	2.2
117.5°	1.3	1.8	1.8
120°	1.3	1.3	1.8
122.5°	1.3	1.3	1.8
125°	1.3	1.3	1.8
127.5°	1.8	1.3	1.3
130°	1.3	1.3	1.3
132.5°	1.8	1.3	1.3
135°	1.8	1.3	1.3
137.5°	1.8	1.3	1.3
140°	1.8	1.3	1.3
142.5°	1.8	1.3	1.3
145°	1.3	1.3	1.3
147.5°	1.3	1.3	1.3
150°	1.3	1.3	0.9
152.5°	1.3	0.9	0.9
155°	1.3	0.9	0.4
157.5°	1.8	0.9	0.4
160°	1.3	0.9	0.4
162.5°	1.3	0.9	0.4
165°	1.3	0.9	0.0
167.5°	1.3	0.9	0.4
170°	1.3	0.9	0.4
172.5°	1.3	0.9	0.4
175°	1.3	0.4	0.4
177.5°	1.3	0.4	0.4
180°	1.3	1.3	1.3



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180°    - - 45°-225°    - - - - 90°-270°







107.5°	185.0	179.7	162.1	133.0	92.9	52.0	19.4	3.5	0.9	1.3	1.3
110°	161.2	156.8	138.7	110.5	74.9	38.8	12.8	2.2	1.3	1.3	1.3







107.5°	1.8	2.6	3.1
110°	1.8	2.2	2.6



(END OF REPORT)