

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: P550571

Luminaire Tested: **FCC-X-2-LD4-1HI-40-UNV-81-86-ED1D-90**

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: P550571  
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-81-86-ED1D-90  
Description: FCC CORNER MOUNT LUMINAIRE WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES AND 4000K, AND 90 CRI LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

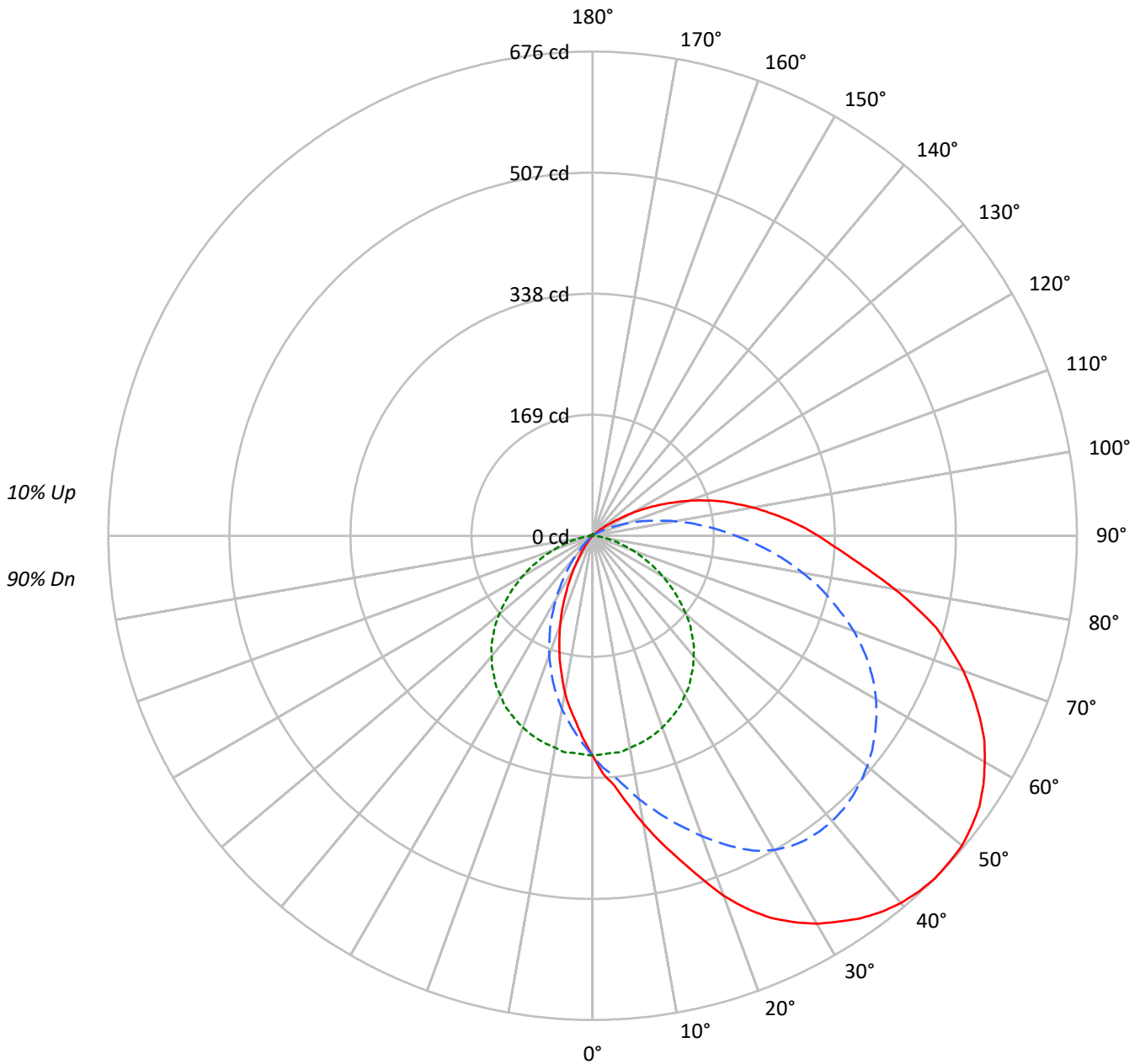
Lumens per Lamp: N/A  
Luminaire Lumens: 1516.1 lumens  
Efficiency: N/A  
Efficacy: 69.9 lumens/watt  
Spacing Criteria (0/90/45): 1.66 / 1.25 / 1.59  
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 0.5' x H: 0.25')  
CIE Type: Semi-Direct

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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### 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°	3301	3301	3301
5°	3623	3252	2713
10°	4100	3213	2237
15°	4595	3171	1742
20°	5183	3120	1283
25°	5670	3060	843
30°	6032	2979	475
35°	6346	2894	209
40°	6624	2786	50
45°	6862	2653	0
50°	7063	2476	0
55°	7215	2252	0
60°	7292	1991	0
65°	7322	1695	0
70°	7297	1382	0
75°	7205	1018	6
80°	6912	624	32
85°	6682	300	42



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.4	1.9
10°-20°	87.9	5.8
20°-30°	142.4	9.4
30°-40°	183.0	12.1
40°-50°	207.1	13.7
50°-60°	214.6	14.2
60°-70°	202.4	13.3
70°-80°	169.6	11.2
80°-90°	122.9	8.1
90°-100°	80.8	5.3
100°-110°	46.7	3.1
110°-120°	20.6	1.4
120°-130°	5.6	0.4
130°-140°	1.3	0.1
140°-150°	0.9	0.1
150°-160°	0.6	0.0
160°-170°	0.3	0.0
170°-180°	0.1	0.0
0°-30°	259.7	17.1
0°-40°	442.7	29.2
0°-60°	864.4	57.0
0°-90°	1359.2	89.7
90°-120°	148.1	9.8
90°-150°	155.8	10.3
90°-180°	157.0	10.4
0°-180°	1516.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	307	307	307	307	307	
5°	350	336	304	276	262	35
15°	468	410	294	212	177	135
25°	589	481	273	140	88	272
35°	652	519	240	68	22	409
45°	676	514	196	16	0	522
55°	659	481	141	0	0	588
65°	596	426	84	0	0	589
75°	496	344	36	0	0	521
85°	363	249	6	2	2	310
90°	315	200	2	2	3	173
95°	270	156	1	3	4	212
105°	186	81	1	2	3	196
115°	101	27	1	1	2	101
125°	30	4	2	1	2	30
135°	2	1	2	2	1	3
145°	0	1	2	1	1	0
155°	1	2	2	1	0	0
165°	1	1	2	1	0	0
175°	1	1	2	1	0	0
180°	1	1	1	1	1	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7	306.7
2.5°	332.4	332.0	330.9	328.9	326.2	321.5	317.6	314.1	309.4	305.5	298.1
5°	350.0	348.1	346.5	344.5	338.3	334.0	327.0	319.2	311.7	304.3	289.5
7.5°	378.1	375.0	372.7	367.2	358.6	348.8	337.9	330.5	325.4	304.7	279.3
10°	408.2	405.5	400.8	391.0	380.5	366.4	350.8	333.2	317.6	300.4	270.3
12.5°	437.9	434.0	427.4	414.9	400.0	382.4	360.9	340.2	318.0	297.7	259.8
15°	467.6	463.3	456.3	441.0	421.5	398.5	372.3	346.1	319.9	294.1	248.8
17.5°	500.0	494.2	483.6	466.4	441.8	413.3	382.4	350.8	319.2	289.9	237.1
20°	534.8	526.6	515.3	492.2	463.3	429.7	392.6	355.5	318.8	284.8	223.8
22.5°	563.7	555.5	543.0	519.2	484.4	443.4	401.2	358.6	317.2	278.9	211.3
25°	588.7	582.0	568.4	541.0	504.3	457.8	409.4	360.9	314.9	272.7	198.1
27.5°	608.2	602.0	586.7	558.6	521.1	470.7	415.6	362.1	311.7	266.4	184.4
30°	625.4	619.2	600.8	571.9	532.4	480.9	421.9	362.5	307.8	257.0	169.5
32.5°	638.7	632.8	614.1	583.2	540.3	487.9	425.4	362.1	302.7	250.4	153.5
35°	652.0	646.1	624.2	591.4	546.1	491.0	428.1	360.2	296.5	239.5	138.3
37.5°	662.1	655.5	633.2	596.9	548.8	491.8	427.7	357.4	289.9	230.5	123.1
40°	669.2	662.1	638.3	600.0	549.6	490.6	424.6	352.7	282.0	219.1	107.0
42.5°	673.8	666.0	640.6	604.7	548.1	487.5	419.9	346.9	273.4	209.4	91.8
45°	676.2	668.0	641.0	600.8	545.3	481.7	412.9	339.5	264.1	196.1	76.6
47.5°	675.0	666.0	639.1	596.5	540.3	475.4	405.1	330.5	252.7	184.4	62.1
50°	673.1	663.7	634.8	591.0	533.2	467.6	396.5	319.5	241.0	169.9	49.2
52.5°	666.8	657.4	630.1	583.2	525.0	458.6	384.8	308.2	228.5	155.9	37.5
55°	659.0	650.4	621.9	576.2	514.5	447.7	373.8	296.1	216.4	141.4	27.0
57.5°	646.9	639.1	611.7	564.9	503.9	435.6	361.7	282.8	201.2	127.0	18.8
60°	632.1	624.2	597.7	552.0	491.8	421.9	348.4	269.1	187.5	112.5	11.7
62.5°	616.4	609.0	581.3	536.0	476.6	407.4	334.0	255.5	173.1	99.2	7.0
65°	595.7	588.7	563.7	516.8	459.8	391.8	318.0	239.1	158.2	84.4	3.9
67.5°	573.8	567.6	542.2	499.2	440.2	374.6	301.6	223.1	142.6	71.5	2.0
70°	550.4	542.6	519.2	475.4	420.3	355.1	283.6	206.6	127.7	59.0	0.0
72.5°	523.1	517.2	494.5	453.1	397.3	334.4	265.2	188.7	111.3	46.9	0.4
75°	496.5	489.1	468.4	429.3	374.6	312.5	244.9	171.9	95.3	35.9	0.4
77.5°	462.1	459.8	440.2	402.4	353.1	291.4	222.7	151.6	80.1	25.8	0.4
80°	427.7	425.4	410.2	375.4	328.1	266.4	202.0	132.4	65.2	17.2	0.4
82.5°	393.8	390.6	376.2	347.3	302.7	245.3	180.5	113.3	51.6	10.5	0.4
85°	363.3	359.4	343.8	317.2	276.6	221.5	158.2	94.5	38.3	5.9	0.8
87.5°	337.1	334.4	317.2	289.9	250.0	199.2	138.7	76.6	27.0	2.7	1.2
90°	314.9	309.0	293.8	264.9	225.0	174.6	118.0	61.3	18.0	1.6	1.6
92.5°	293.0	287.9	271.1	241.4	202.7	153.5	98.0	46.9	11.3	0.8	2.0
95°	270.3	264.9	248.4	221.1	180.1	132.0	80.5	34.4	6.3	0.8	2.0
97.5°	248.1	243.0	225.8	198.4	159.8	113.3	63.7	24.2	3.1	0.8	1.6
100°	227.4	221.5	205.9	178.5	139.5	94.5	49.2	15.6	2.0	0.8	1.6
102.5°	205.5	200.8	184.8	158.2	118.4	77.0	36.7	9.8	0.8	0.8	1.2
105°	185.9	180.1	164.5	137.1	100.8	60.5	25.8	5.9	0.8	0.8	1.2



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
112.5°	121.1	116.4	102.7	79.7	51.2	23.8	7.0	1.2	1.2	1.2	1.2
115°	101.2	94.1	82.0	61.7	37.9	15.6	3.5	1.2	1.2	1.2	1.2
117.5°	80.9	75.0	66.4	46.9	25.0	10.2	2.0	1.2	1.2	1.2	1.2
120°	63.3	57.8	48.0	32.4	16.8	5.9	0.8	1.2	1.2	1.2	1.2
122.5°	45.3	41.0	32.4	21.1	10.2	2.7	1.2	1.2	1.6	1.6	1.2
125°	30.1	27.7	21.5	12.9	6.3	1.2	1.2	1.2	1.6	1.6	1.2
127.5°	19.5	17.6	12.5	7.4	2.7	1.2	1.2	1.6	1.6	1.6	1.2
130°	10.9	9.8	7.4	4.3	1.2	1.2	1.2	1.6	1.6	1.6	1.2
132.5°	6.3	5.9	3.9	0.8	1.2	1.2	1.2	1.6	1.6	1.6	1.6
135°	1.6	0.8	0.8	0.8	1.2	1.2	1.6	1.6	2.0	2.0	1.6
137.5°	0.4	0.4	0.8	0.8	1.2	1.2	1.6	2.0	2.0	2.0	1.6
140°	0.4	0.4	0.8	1.2	1.2	1.2	1.6	2.0	2.0	2.0	1.6
142.5°	0.4	0.8	0.8	1.2	1.2	1.6	1.6	2.0	2.0	1.6	1.6
145°	0.4	0.8	0.8	1.2	1.2	1.6	1.6	2.0	1.6	1.6	1.6
147.5°	0.8	0.8	0.8	1.2	1.2	1.6	1.6	2.0	2.0	1.6	1.6
150°	0.4	0.8	0.8	1.2	1.6	1.6	1.6	2.0	1.6	1.6	1.6
152.5°	0.4	0.8	0.8	1.2	1.6	1.6	1.6	2.0	1.6	1.6	1.6
155°	0.8	0.8	0.8	1.2	1.6	1.6	1.6	2.0	1.6	1.6	2.0
157.5°	0.8	0.8	0.8	1.2	1.6	1.6	1.6	2.0	1.6	1.6	2.0
160°	0.8	0.8	0.8	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.6
162.5°	0.8	0.8	0.8	1.2	1.2	1.6	1.6	1.6	1.6	1.6	1.6
165°	0.8	0.8	0.8	0.8	1.2	1.2	1.6	1.6	1.6	1.6	1.6
167.5°	0.8	0.8	0.8	1.2	1.2	1.2	1.6	1.6	1.6	1.6	1.6
170°	0.8	0.8	0.8	1.2	1.2	1.2	1.6	2.0	2.0	2.0	2.0
172.5°	0.8	0.8	0.8	1.2	1.2	1.6	1.6	2.0	2.0	2.0	2.0
175°	0.8	0.8	0.8	1.2	1.2	1.6	1.6	2.0	2.0	2.0	2.0
177.5°	0.4	0.8	0.8	1.2	1.2	1.6	1.6	2.0	2.0	2.0	1.6
180°	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2



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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	306.7	306.7	306.7
2.5°	291.8	286.3	284.8
5°	276.2	267.2	262.1
7.5°	260.6	248.4	242.6
10°	246.1	228.9	222.7
12.5°	228.9	209.0	199.2
15°	212.5	186.7	177.3
17.5°	194.1	165.2	154.3
20°	177.0	143.8	132.4
22.5°	157.4	122.7	110.2
25°	139.8	101.6	87.5
27.5°	120.3	80.1	68.0
30°	102.0	61.3	49.2
32.5°	84.4	44.9	34.0
35°	68.0	30.5	21.5
37.5°	52.3	18.8	10.9
40°	37.9	9.8	5.1
42.5°	25.4	4.7	2.7
45°	15.6	2.3	0.0
47.5°	9.0	0.0	0.0
50°	4.7	0.0	0.0
52.5°	2.0	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	0.8	1.2
80°	0.8	1.6	2.0
82.5°	1.6	2.0	2.0
85°	1.6	2.0	2.3
87.5°	2.0	2.3	2.7
90°	2.3	2.7	2.7
92.5°	2.3	3.1	3.1
95°	2.7	3.1	3.5
97.5°	3.1	3.5	3.5
100°	2.7	3.5	3.9
102.5°	2.3	3.5	3.5
105°	2.0	2.7	3.1





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
112.5°	1.6	2.0	2.0
115°	1.2	1.6	2.0
117.5°	1.2	1.6	1.6
120°	1.2	1.2	1.6
122.5°	1.2	1.2	1.6
125°	1.2	1.2	1.6
127.5°	1.6	1.2	1.2
130°	1.2	1.2	1.2
132.5°	1.6	1.2	1.2
135°	1.6	1.2	1.2
137.5°	1.6	1.2	1.2
140°	1.6	1.2	1.2
142.5°	1.6	1.2	1.2
145°	1.2	1.2	1.2
147.5°	1.2	1.2	1.2
150°	1.2	1.2	0.8
152.5°	1.2	0.8	0.8
155°	1.2	0.8	0.4
157.5°	1.6	0.8	0.4
160°	1.2	0.8	0.4
162.5°	1.2	0.8	0.4
165°	1.2	0.8	0.0
167.5°	1.2	0.8	0.4
170°	1.2	0.8	0.4
172.5°	1.2	0.8	0.4
175°	1.2	0.4	0.4
177.5°	1.2	0.4	0.4
180°	1.2	1.2	1.2



Report Generated By 670246072 / DESKTOP-MV3F9LC





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







107.5°	164.1	159.4	143.8	118.0	82.4	46.1	17.2	3.1	0.8	1.2	1.2
110°	143.0	139.1	123.1	98.0	66.4	34.4	11.3	2.0	1.2	1.2	1.2







107.5°	1.6	2.3	2.7
110°	1.6	2.0	2.3



(END OF REPORT)