

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: P550439

Luminaire Tested: **FCC-X-2-LD4-1HI-30-UNV-81-84-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: P550439  
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-30-UNV-81-84-ED1D-90  
Description: FCC CORNER MOUNT LUMINAIRE WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES AND 3000K, AND 90 CRI LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

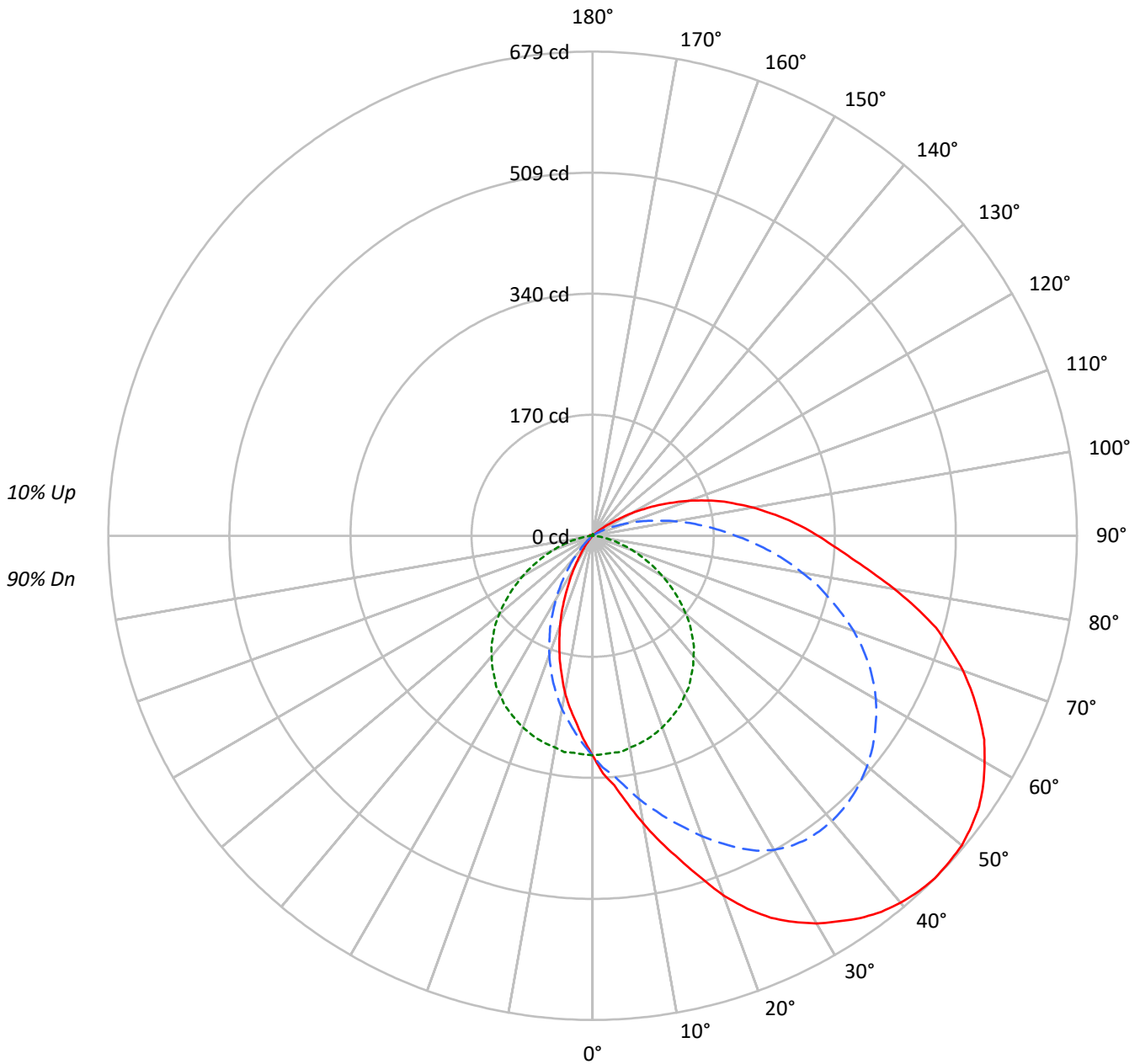
Lumens per Lamp: N/A  
Luminaire Lumens: 1522.1 lumens  
Efficiency: N/A  
Efficacy: 70.1 lumens/watt  
Spacing Criteria (0/90/45): 1.66 / 1.25 / 1.59  
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 0.5' x H: 0.25')  
CIE Type: Semi-Direct

Input Watts (W): 21.7  
Input Voltage (V): NR  
Input Current (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									
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°	3314	3314	3314
5°	3638	3265	2725
10°	4116	3225	2245
15°	4613	3184	1750
20°	5203	3132	1289
25°	5692	3072	846
30°	6056	2992	476
35°	6371	2905	210
40°	6650	2798	50
45°	6890	2664	0
50°	7090	2486	0
55°	7243	2261	0
60°	7321	1998	0
65°	7351	1701	0
70°	7326	1387	0
75°	7234	1024	6
80°	6939	628	32
85°	6708	300	44



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	29.5	1.9
10°-20°	88.3	5.8
20°-30°	143.0	9.4
30°-40°	183.7	12.1
40°-50°	207.9	13.7
50°-60°	215.4	14.2
60°-70°	203.2	13.3
70°-80°	170.3	11.2
80°-90°	123.4	8.1
90°-100°	81.1	5.3
100°-110°	46.9	3.1
110°-120°	20.7	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°	260.8	17.1
0°-40°	444.5	29.2
0°-60°	867.8	57.0
0°-90°	1364.6	89.7
90°-120°	148.6	9.8
90°-150°	156.4	10.3
90°-180°	157.0	10.3
0°-180°	1522.1	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	308	308	308	308	308	
5°	351	337	306	277	263	35
15°	469	412	295	213	178	135
25°	591	483	274	140	88	273
35°	655	521	240	68	22	411
45°	679	516	197	16	0	524
55°	662	483	142	0	0	591
65°	598	428	85	0	0	592
75°	498	345	36	0	0	523
85°	365	250	6	2	2	311
90°	316	201	2	2	3	173
95°	271	157	1	3	4	213
105°	187	81	1	2	3	197
115°	102	27	1	1	2	102
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°	307.9	307.9	307.9	307.9	307.9	307.9	307.9	307.9	307.9	307.9	307.9
2.5°	333.7	333.4	332.2	330.2	327.5	322.8	318.8	315.3	310.6	306.7	299.2
5°	351.4	349.4	347.9	345.9	339.6	335.3	328.3	320.4	313.0	305.5	290.6
7.5°	379.6	376.5	374.1	368.7	360.0	350.2	339.2	331.8	326.7	305.9	280.4
10°	409.8	407.1	402.4	392.6	382.0	367.9	352.2	334.5	318.8	301.6	271.4
12.5°	439.6	435.7	429.0	416.5	401.6	383.9	362.4	341.6	319.2	298.8	260.8
15°	469.4	465.1	458.1	442.8	423.2	400.0	373.8	347.5	321.2	295.3	249.8
17.5°	502.0	496.1	485.5	468.3	443.6	414.9	383.9	352.2	320.4	291.0	238.1
20°	536.9	528.7	517.3	494.2	465.1	431.4	394.1	356.9	320.0	285.9	224.7
22.5°	565.9	557.7	545.1	521.2	486.3	445.1	402.8	360.0	318.5	280.0	212.2
25°	591.0	584.4	570.6	543.2	506.3	459.6	411.0	362.4	316.1	273.7	198.8
27.5°	610.6	604.4	589.1	560.8	523.2	472.6	417.3	363.6	313.0	267.5	185.1
30°	627.9	621.6	603.2	574.2	534.5	482.8	423.6	363.9	309.0	258.1	170.2
32.5°	641.2	635.3	616.5	585.5	542.4	489.8	427.1	363.6	303.9	251.4	154.1
35°	654.6	648.7	626.7	593.8	548.3	493.0	429.8	361.6	297.7	240.4	138.8
37.5°	664.8	658.1	635.7	599.3	551.0	493.8	429.4	358.8	291.0	231.4	123.5
40°	671.8	664.8	640.8	602.4	551.8	492.6	426.3	354.1	283.2	220.0	107.5
42.5°	676.5	668.7	643.2	607.1	550.2	489.4	421.6	348.3	274.5	210.2	92.2
45°	678.9	670.6	643.6	603.2	547.5	483.6	414.5	340.8	265.1	196.9	76.9
47.5°	677.7	668.7	641.6	598.9	542.4	477.3	406.7	331.8	253.7	185.1	62.4
50°	675.7	666.3	637.3	593.4	535.3	469.4	398.1	320.8	242.0	170.6	49.4
52.5°	669.5	660.0	632.6	585.5	527.1	460.4	386.3	309.4	229.4	156.5	37.6
55°	661.6	653.0	624.4	578.5	516.5	449.4	375.3	297.3	217.3	142.0	27.1
57.5°	649.5	641.6	614.2	567.1	505.9	437.3	363.2	283.9	202.0	127.5	18.8
60°	634.6	626.7	600.0	554.2	493.8	423.6	349.8	270.2	188.2	112.9	11.8
62.5°	618.9	611.4	583.6	538.1	478.5	409.0	335.3	256.5	173.7	99.6	7.1
65°	598.1	591.0	565.9	518.9	461.6	393.4	319.2	240.0	158.8	84.7	3.9
67.5°	576.1	569.8	544.4	501.2	442.0	376.1	302.8	223.9	143.1	71.8	2.0
70°	552.6	544.7	521.2	477.3	422.0	356.5	284.7	207.5	128.2	59.2	0.0
72.5°	525.1	519.3	496.5	454.9	398.9	335.7	266.3	189.4	111.8	47.1	0.4
75°	498.5	491.0	470.2	431.0	376.1	313.7	245.9	172.6	95.7	36.1	0.4
77.5°	464.0	461.6	442.0	403.9	354.5	292.6	223.5	152.2	80.4	25.9	0.4
80°	429.4	427.1	411.8	376.9	329.4	267.5	202.8	133.0	65.5	17.3	0.4
82.5°	395.3	392.2	377.7	348.7	303.9	246.3	181.2	113.7	51.8	10.6	0.4
85°	364.7	360.8	345.1	318.5	277.7	222.4	158.8	94.9	38.4	5.9	0.8
87.5°	338.5	335.7	318.5	291.0	251.0	200.0	139.2	76.9	27.1	2.7	1.2
90°	316.1	310.2	294.9	265.9	225.9	175.3	118.4	61.6	18.0	1.6	1.6
92.5°	294.1	289.0	272.2	242.4	203.5	154.1	98.4	47.1	11.4	0.8	2.0
95°	271.4	265.9	249.4	222.0	180.8	132.6	80.8	34.5	6.3	0.8	2.0
97.5°	249.0	243.9	226.7	199.2	160.4	113.7	63.9	24.3	3.1	0.8	1.6
100°	228.3	222.4	206.7	179.2	140.0	94.9	49.4	15.7	2.0	0.8	1.6
102.5°	206.3	201.6	185.5	158.8	118.8	77.3	36.9	9.8	0.8	0.8	1.2
105°	186.7	180.8	165.1	137.7	101.2	60.8	25.9	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°	121.6	116.9	103.1	80.0	51.4	23.9	7.1	1.2	1.2	1.2	1.2
115°	101.6	94.5	82.4	62.0	38.0	15.7	3.5	1.2	1.2	1.2	1.2
117.5°	81.2	75.3	66.7	47.1	25.1	10.2	2.0	1.2	1.2	1.2	1.2
120°	63.5	58.0	48.2	32.6	16.9	5.9	0.8	1.2	1.2	1.2	1.2
122.5°	45.5	41.2	32.6	21.2	10.2	2.7	1.2	1.2	1.6	1.6	1.2
125°	30.2	27.8	21.6	12.9	6.3	1.2	1.2	1.2	1.6	1.6	1.2
127.5°	19.6	17.6	12.5	7.5	2.7	1.2	1.2	1.6	1.6	1.6	1.2
130°	11.0	9.8	7.5	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°	307.9	307.9	307.9
2.5°	293.0	287.5	285.9
5°	277.3	268.3	263.2
7.5°	261.6	249.4	243.5
10°	247.1	229.8	223.5
12.5°	229.8	209.8	200.0
15°	213.3	187.5	178.1
17.5°	194.9	165.9	154.9
20°	177.7	144.3	133.0
22.5°	158.0	123.1	110.6
25°	140.4	102.0	87.8
27.5°	120.8	80.4	68.2
30°	102.4	61.6	49.4
32.5°	84.7	45.1	34.1
35°	68.2	30.6	21.6
37.5°	52.6	18.8	11.0
40°	38.0	9.8	5.1
42.5°	25.5	4.7	2.7
45°	15.7	2.4	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	2.4
87.5°	2.0	2.4	2.7
90°	2.4	2.7	2.7
92.5°	2.4	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°	2.4	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°	164.7	160.0	144.3	118.4	82.8	46.3	17.3	3.1	0.8	1.2	1.2
110°	143.5	139.6	123.5	98.4	66.7	34.5	11.4	2.0	1.2	1.2	1.2







107.5°	1.6	2.4	2.7
110°	1.6	2.0	2.4



(END OF REPORT)