

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: P551659

Luminaire Tested: **FCC-X-2-LD4-2LO-50-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: P551659  
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-LD4-2LO-50-UNV-81-86-ED1D-90  
Description: FCC CORNER MOUNT LUMINAIRE WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES AND 5000K, AND 90 CRI LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

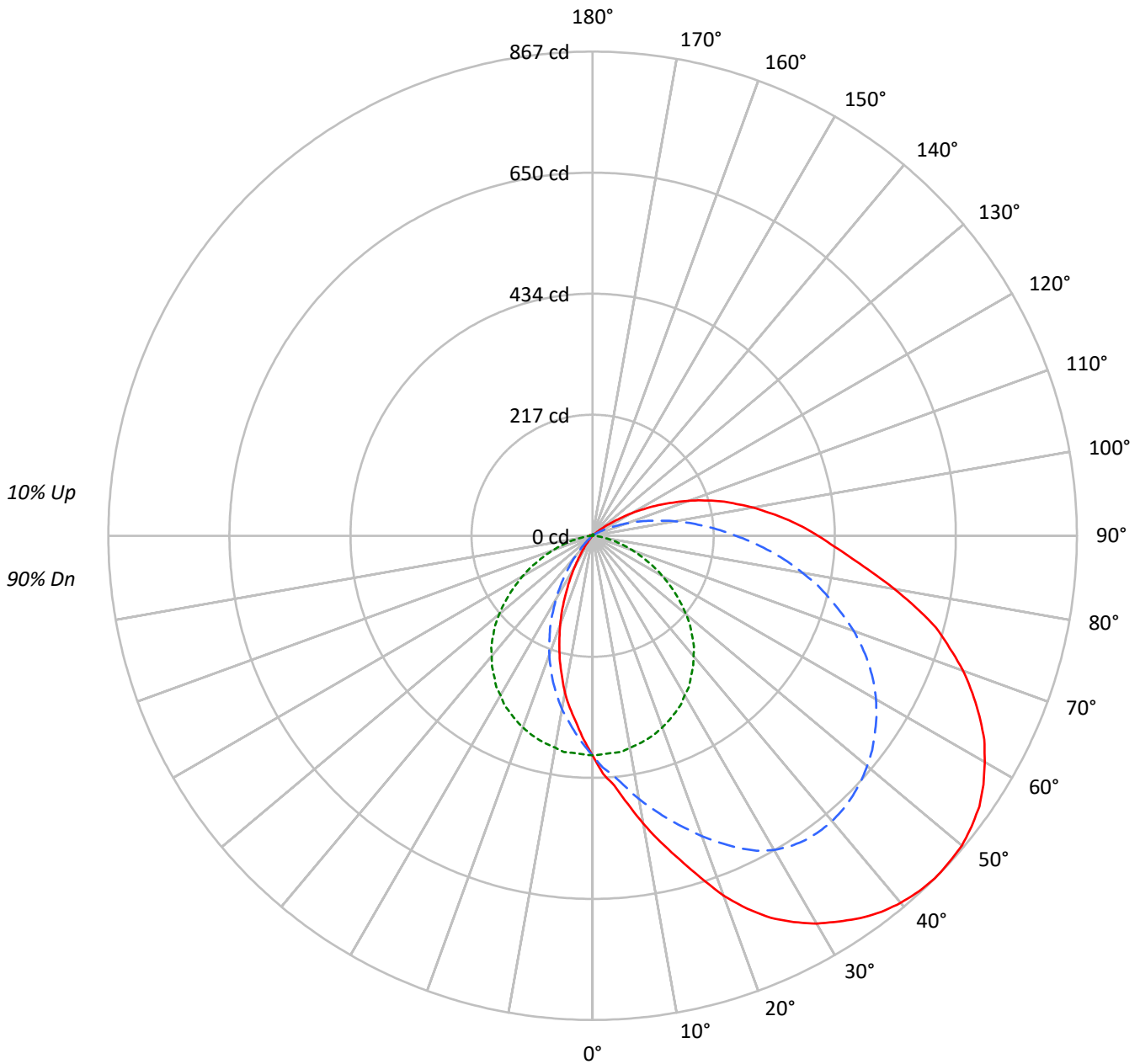
Lumens per Lamp: N/A  
Luminaire Lumens: 1944.0 lumens  
Efficiency: N/A  
Efficacy: 82.7 lumens/watt  
Spacing Criteria (0/90/45): 1.66 / 1.25 / 1.59  
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 0.5' x H: 0.25')  
CIE Type: Semi-Direct

Input Watts (W): 23.5  
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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CATALOG NUMBER: FCC-X-2-LD4-2LO-50-UNV-81-86-ED1D-90

### 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°	4232	4232	4232
5°	4646	4171	3479
10°	5258	4119	2868
15°	5892	4067	2235
20°	6646	4001	1646
25°	7271	3923	1081
30°	7735	3821	609
35°	8137	3711	269
40°	8494	3574	64
45°	8800	3403	0
50°	9057	3176	0
55°	9252	2887	0
60°	9351	2554	0
65°	9389	2173	0
70°	9358	1771	0
75°	9239	1307	7
80°	8864	798	40
85°	8569	381	55



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	37.7	1.9
10°-20°	112.8	5.8
20°-30°	182.6	9.4
30°-40°	234.6	12.1
40°-50°	265.6	13.7
50°-60°	275.1	14.2
60°-70°	259.5	13.3
70°-80°	217.5	11.2
80°-90°	157.6	8.1
90°-100°	103.6	5.3
100°-110°	59.8	3.1
110°-120°	26.4	1.4
120°-130°	7.1	0.4
130°-140°	1.6	0.1
140°-150°	1.1	0.1
150°-160°	0.8	0.0
160°-170°	0.4	0.0
170°-180°	0.2	0.0
0°-30°	333.1	17.1
0°-40°	567.7	29.2
0°-60°	1108.4	57.0
0°-90°	1743.0	89.7
90°-120°	189.8	9.8
90°-150°	199.7	10.3
90°-180°	201.0	10.3
0°-180°	1944.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	393	393	393	393	393	
5°	449	431	390	354	336	45
15°	600	526	377	272	227	173
25°	755	617	350	179	112	349
35°	836	665	307	87	28	524
45°	867	658	252	20	0	669
55°	845	617	181	0	0	755
65°	764	546	108	0	0	756
75°	637	441	46	0	0	668
85°	466	319	8	2	3	398
90°	404	256	2	3	4	221
95°	347	200	1	4	4	272
105°	238	103	1	2	4	252
115°	130	34	2	2	2	130
125°	39	5	2	2	2	39
135°	2	2	2	2	2	4
145°	0	2	2	2	2	0
155°	1	2	2	2	0	0
165°	1	2	2	2	0	0
175°	1	2	2	2	0	0
180°	2	2	2	2	2	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	393.2	393.2	393.2	393.2	393.2	393.2	393.2	393.2	393.2	393.2	393.2
2.5°	426.3	425.8	424.3	421.8	418.3	412.3	407.3	402.7	396.7	391.7	382.2
5°	448.8	446.3	444.3	441.8	433.8	428.3	419.3	409.3	399.7	390.2	371.2
7.5°	484.9	480.9	477.9	470.9	459.8	447.3	433.3	423.8	417.3	390.7	358.2
10°	523.5	520.0	513.9	501.4	487.9	469.9	449.8	427.3	407.3	385.2	346.6
12.5°	561.5	556.5	548.0	532.0	512.9	490.4	462.9	436.3	407.8	381.7	333.1
15°	599.6	594.1	585.1	565.5	540.5	510.9	477.4	443.8	410.3	377.2	319.1
17.5°	641.2	633.7	620.1	598.1	566.5	530.0	490.4	449.8	409.3	371.7	304.1
20°	685.8	675.2	660.7	631.2	594.1	551.0	503.4	455.8	408.8	365.2	287.0
22.5°	722.8	712.3	696.3	665.7	621.1	568.5	514.4	459.8	406.7	357.7	271.0
25°	754.9	746.4	728.8	693.8	646.7	587.1	525.0	462.9	403.7	349.6	254.0
27.5°	779.9	771.9	752.4	716.3	668.2	603.6	533.0	464.4	399.7	341.6	236.4
30°	802.0	794.0	770.4	733.4	682.8	616.6	541.0	464.9	394.7	329.6	217.4
32.5°	819.0	811.5	787.5	747.9	692.8	625.7	545.5	464.4	388.2	321.1	196.9
35°	836.0	828.5	800.5	758.4	700.3	629.7	549.0	461.9	380.2	307.1	177.3
37.5°	849.1	840.5	812.0	765.4	703.8	630.7	548.5	458.3	371.7	295.5	157.8
40°	858.1	849.1	818.5	769.4	704.8	629.2	544.5	452.3	361.7	281.0	137.3
42.5°	864.1	854.1	821.5	775.4	702.8	625.2	538.5	444.8	350.6	268.5	117.7
45°	867.1	856.6	822.0	770.4	699.3	617.6	529.5	435.3	338.6	251.5	98.2
47.5°	865.6	854.1	819.5	764.9	692.8	609.6	519.5	423.8	324.1	236.4	79.6
50°	863.1	851.1	814.0	757.9	683.8	599.6	508.4	409.8	309.1	217.9	63.1
52.5°	855.1	843.1	808.0	747.9	673.2	588.1	493.4	395.2	293.0	199.9	48.1
55°	845.1	834.0	797.5	738.9	659.7	574.1	479.4	379.7	277.5	181.3	34.6
57.5°	829.5	819.5	784.4	724.3	646.2	558.5	463.9	362.7	258.0	162.8	24.0
60°	810.5	800.5	766.4	707.8	630.7	541.0	446.8	345.1	240.4	144.3	15.0
62.5°	790.5	780.9	745.4	687.3	611.1	522.5	428.3	327.6	221.9	127.2	9.0
65°	763.9	754.9	722.8	662.7	589.6	502.4	407.8	306.6	202.9	108.2	5.0
67.5°	735.9	727.8	695.3	640.2	564.5	480.4	386.7	286.0	182.8	91.7	2.5
70°	705.8	695.8	665.7	609.6	539.0	455.3	363.7	265.0	163.8	75.6	0.0
72.5°	670.7	663.2	634.2	581.1	509.4	428.8	340.1	241.9	142.8	60.1	0.5
75°	636.7	627.2	600.6	550.5	480.4	400.7	314.1	220.4	122.2	46.1	0.5
77.5°	592.6	589.6	564.5	516.0	452.8	373.7	285.5	194.4	102.7	33.1	0.5
80°	548.5	545.5	526.0	481.4	420.8	341.6	259.0	169.8	83.7	22.0	0.5
82.5°	504.9	500.9	482.4	445.3	388.2	314.6	231.4	145.3	66.1	13.5	0.5
85°	465.9	460.8	440.8	406.7	354.7	284.0	202.9	121.2	49.1	7.5	1.0
87.5°	432.3	428.8	406.7	371.7	320.6	255.5	177.8	98.2	34.6	3.5	1.5
90°	403.7	396.2	376.7	339.6	288.5	223.9	151.3	78.6	23.0	2.0	2.0
92.5°	375.7	369.2	347.6	309.6	260.0	196.9	125.7	60.1	14.5	1.0	2.5
95°	346.6	339.6	318.6	283.5	230.9	169.3	103.2	44.1	8.0	1.0	2.5
97.5°	318.1	311.6	289.5	254.5	204.9	145.3	81.7	31.1	4.0	1.0	2.0
100°	291.5	284.0	264.0	228.9	178.8	121.2	63.1	20.0	2.5	1.0	2.0
102.5°	263.5	257.5	236.9	202.9	151.8	98.7	47.1	12.5	1.0	1.0	1.5
105°	238.4	230.9	210.9	175.8	129.2	77.6	33.1	7.5	1.0	1.0	1.5



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**CANDELA DISTRIBUTION (continued):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
112.5°	155.3	149.3	131.7	102.2	65.6	30.6	9.0	1.5	1.5	1.5	1.5
115°	129.7	120.7	105.2	79.1	48.6	20.0	4.5	1.5	1.5	1.5	1.5
117.5°	103.7	96.2	85.2	60.1	32.1	13.0	2.5	1.5	1.5	1.5	1.5
120°	81.1	74.1	61.6	41.6	21.5	7.5	1.0	1.5	1.5	1.5	1.5
122.5°	58.1	52.6	41.6	27.0	13.0	3.5	1.5	1.5	2.0	2.0	1.5
125°	38.6	35.6	27.6	16.5	8.0	1.5	1.5	1.5	2.0	2.0	1.5
127.5°	25.0	22.5	16.0	9.5	3.5	1.5	1.5	2.0	2.0	2.0	1.5
130°	14.0	12.5	9.5	5.5	1.5	1.5	1.5	2.0	2.0	2.0	1.5
132.5°	8.0	7.5	5.0	1.0	1.5	1.5	1.5	2.0	2.0	2.0	2.0
135°	2.0	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.5	2.0
137.5°	0.5	0.5	1.0	1.0	1.5	1.5	2.0	2.5	2.5	2.5	2.0
140°	0.5	0.5	1.0	1.5	1.5	1.5	2.0	2.5	2.5	2.5	2.0
142.5°	0.5	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.5	2.0	2.0
145°	0.5	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.0	2.0	2.0
147.5°	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.5	2.0	2.0
150°	0.5	1.0	1.0	1.5	2.0	2.0	2.0	2.5	2.0	2.0	2.0
152.5°	0.5	1.0	1.0	1.5	2.0	2.0	2.0	2.5	2.0	2.0	2.0
155°	1.0	1.0	1.0	1.5	2.0	2.0	2.0	2.5	2.0	2.0	2.5
157.5°	1.0	1.0	1.0	1.5	2.0	2.0	2.0	2.5	2.0	2.0	2.5
160°	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0
162.5°	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0
165°	1.0	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.0	2.0	2.0
167.5°	1.0	1.0	1.0	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0
170°	1.0	1.0	1.0	1.5	1.5	1.5	2.0	2.5	2.5	2.5	2.5
172.5°	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.5	2.5	2.5
175°	1.0	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.5	2.5	2.5
177.5°	0.5	1.0	1.0	1.5	1.5	2.0	2.0	2.5	2.5	2.5	2.0
180°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5



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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
0°	393.2	393.2	393.2
2.5°	374.2	367.2	365.2
5°	354.2	342.6	336.1
7.5°	334.1	318.6	311.1
10°	315.6	293.5	285.5
12.5°	293.5	268.0	255.5
15°	272.5	239.4	227.4
17.5°	249.0	211.9	197.9
20°	226.9	184.3	169.8
22.5°	201.9	157.3	141.3
25°	179.3	130.2	112.2
27.5°	154.3	102.7	87.2
30°	130.7	78.6	63.1
32.5°	108.2	57.6	43.6
35°	87.2	39.1	27.6
37.5°	67.1	24.0	14.0
40°	48.6	12.5	6.5
42.5°	32.6	6.0	3.5
45°	20.0	3.0	0.0
47.5°	11.5	0.0	0.0
50°	6.0	0.0	0.0
52.5°	2.5	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°	0.5	0.5	0.5
77.5°	0.5	1.0	1.5
80°	1.0	2.0	2.5
82.5°	2.0	2.5	2.5
85°	2.0	2.5	3.0
87.5°	2.5	3.0	3.5
90°	3.0	3.5	3.5
92.5°	3.0	4.0	4.0
95°	3.5	4.0	4.5
97.5°	4.0	4.5	4.5
100°	3.5	4.5	5.0
102.5°	3.0	4.5	4.5
105°	2.5	3.5	4.0





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**CANDELA DISTRIBUTION (continued):**

	135°	157.5°	180°
112.5°	2.0	2.5	2.5
115°	1.5	2.0	2.5
117.5°	1.5	2.0	2.0
120°	1.5	1.5	2.0
122.5°	1.5	1.5	2.0
125°	1.5	1.5	2.0
127.5°	2.0	1.5	1.5
130°	1.5	1.5	1.5
132.5°	2.0	1.5	1.5
135°	2.0	1.5	1.5
137.5°	2.0	1.5	1.5
140°	2.0	1.5	1.5
142.5°	2.0	1.5	1.5
145°	1.5	1.5	1.5
147.5°	1.5	1.5	1.5
150°	1.5	1.5	1.0
152.5°	1.5	1.0	1.0
155°	1.5	1.0	0.5
157.5°	2.0	1.0	0.5
160°	1.5	1.0	0.5
162.5°	1.5	1.0	0.5
165°	1.5	1.0	0.0
167.5°	1.5	1.0	0.5
170°	1.5	1.0	0.5
172.5°	1.5	1.0	0.5
175°	1.5	0.5	0.5
177.5°	1.5	0.5	0.5
180°	1.5	1.5	1.5



Report Generated By 670246072 / DESKTOP-MV3F9LC





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







107.5°	210.4	204.4	184.3	151.3	105.7	59.1	22.0	4.0	1.0	1.5	1.5
110°	183.3	178.3	157.8	125.7	85.2	44.1	14.5	2.5	1.5	1.5	1.5







107.5°	2.0	3.0	3.5
110°	2.0	2.5	3.0



(END OF REPORT)