

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: P551431

Luminaire Tested: **FCC-X-2-LD4-2HI-50-UNV-93-84-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: P551431
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-LD4-2HI-50-UNV-93-84-ED1D-90
Description: FCC CORNER MOUNT LUMINAIRE WITH .156 CLEAR TEMPERED GLASS FIXTURE
SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES AND 5000K, AND 90 CRI
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

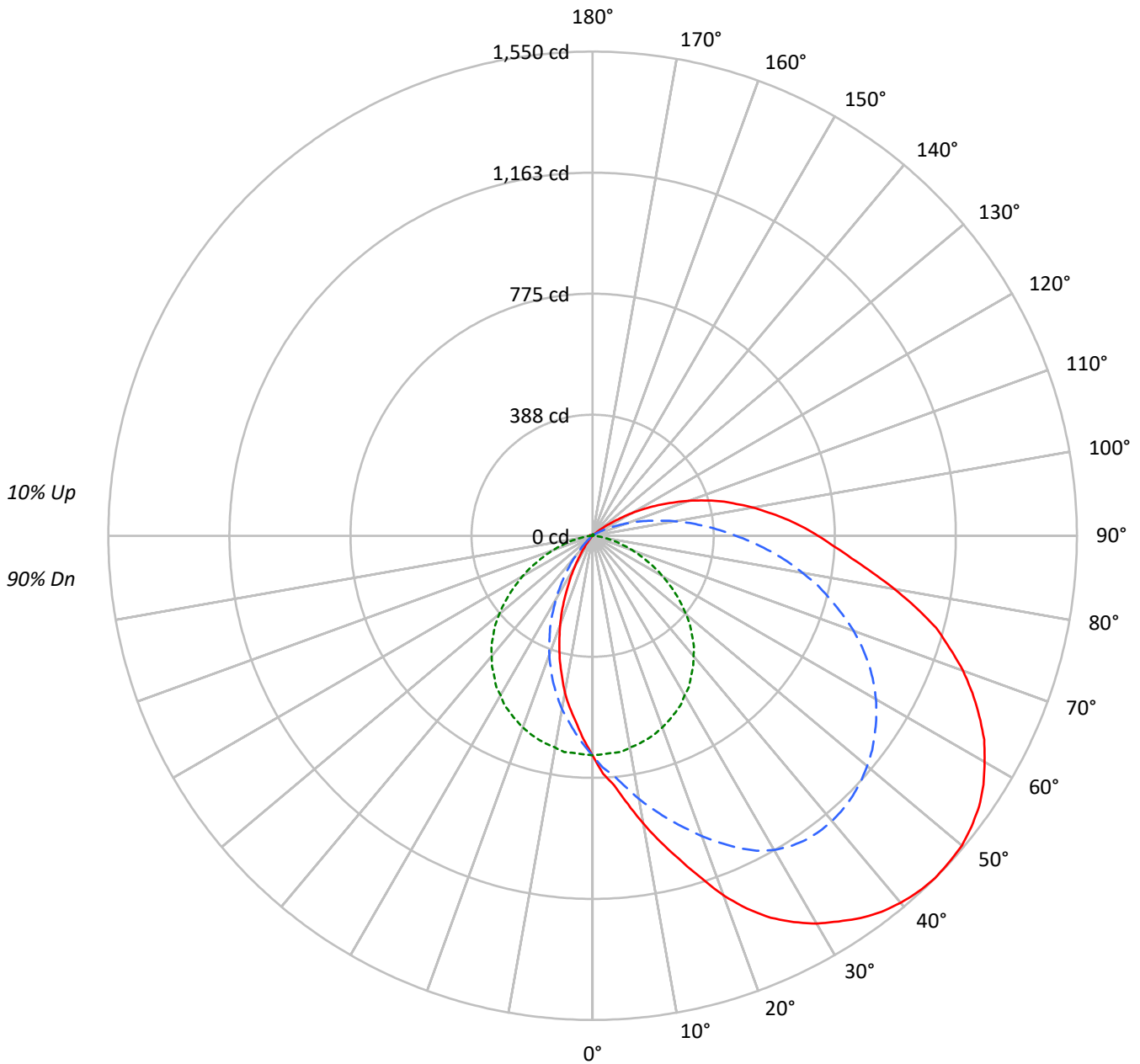
Lumens per Lamp: N/A
Luminaire Lumens: 3475.1 lumens
Efficiency: N/A
Efficacy: 80.3 lumens/watt
Spacing Criteria (0/90/45): 1.66 / 1.25 / 1.59
Luminous Opening: Rectangular w/ Sides (W: 2' x L: 0.5' x H: 0.25')
CIE Type: Semi-Direct

Input Watts (W): 43.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	7566	7566	7566
5°	8306	7455	6220
10°	9399	7364	5127
15°	10533	7271	3995
20°	11879	7152	2941
25°	12996	7014	1932
30°	13827	6830	1088
35°	14546	6632	479
40°	15183	6388	115
45°	15730	6082	0
50°	16189	5677	0
55°	16539	5161	0
60°	16714	4564	0
65°	16783	3885	0
70°	16728	3167	0
75°	16515	2337	13
80°	15846	1429	73
85°	15315	681	99



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.9
10°-20°	201.6	5.8
20°-30°	326.5	9.4
30°-40°	419.4	12.1
40°-50°	474.7	13.7
50°-60°	491.8	14.2
60°-70°	463.8	13.3
70°-80°	388.7	11.2
80°-90°	281.8	8.1
90°-100°	185.2	5.3
100°-110°	107.0	3.1
110°-120°	47.2	1.4
120°-130°	12.8	0.4
130°-140°	2.9	0.1
140°-150°	1.9	0.1
150°-160°	1.4	0.0
160°-170°	0.8	0.0
170°-180°	0.3	0.0
0°-30°	595.4	17.1
0°-40°	1014.8	29.2
0°-60°	1981.3	57.0
0°-90°	3115.7	89.7
90°-120°	339.4	9.8
90°-150°	357.0	10.3
90°-180°	359.0	10.3
0°-180°	3475.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	703	703	703	703	703	
5°	802	770	698	633	601	81
15°	1072	940	674	487	406	309
25°	1349	1103	625	321	201	624
35°	1494	1189	549	156	49	937
45°	1550	1177	450	36	0	1197
55°	1511	1103	324	0	0	1349
65°	1366	976	193	0	0	1351
75°	1138	788	82	1	1	1194
85°	833	571	13	4	5	711
90°	722	458	4	5	6	396
95°	620	358	2	6	8	486
105°	426	185	2	4	7	450
115°	232	61	3	3	4	232
125°	69	8	4	3	4	69
135°	4	3	4	4	3	6
145°	1	3	4	3	3	1
155°	2	4	4	3	1	1
165°	2	3	4	3	0	1
175°	2	3	4	3	1	0
180°	3	3	3	3	3	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
0°	702.9	702.9	702.9	702.9	702.9	702.9	702.9	702.9	702.9	702.9	702.9
2.5°	762.0	761.1	758.4	753.9	747.7	736.9	728.0	719.9	709.2	700.2	683.2
5°	802.3	797.8	794.2	789.8	775.4	765.6	749.5	731.6	714.5	697.5	663.5
7.5°	866.8	859.6	854.2	841.7	822.0	799.6	774.5	757.5	745.9	698.4	640.2
10°	935.7	929.5	918.7	896.3	872.1	839.9	804.1	763.8	728.0	688.6	619.6
12.5°	1003.8	994.8	979.6	950.9	916.9	876.6	827.4	779.9	728.9	682.3	595.5
15°	1071.8	1062.0	1045.9	1010.9	966.2	913.3	853.3	793.3	733.4	674.3	570.4
17.5°	1146.1	1132.7	1108.5	1069.1	1012.7	947.4	876.6	804.1	731.6	664.4	543.5
20°	1225.8	1207.0	1181.1	1128.2	1062.0	985.0	899.9	814.8	730.7	652.8	513.1
22.5°	1292.1	1273.3	1244.6	1190.0	1110.3	1016.3	919.6	822.0	727.1	639.3	484.4
25°	1349.4	1334.2	1302.8	1240.2	1156.0	1049.4	938.4	827.4	721.7	625.0	454.0
27.5°	1394.2	1379.9	1344.9	1280.5	1194.5	1079.0	952.7	830.1	714.5	610.7	422.6
30°	1433.6	1419.2	1377.2	1310.9	1220.5	1102.3	967.1	831.0	705.6	589.2	388.6
32.5°	1464.0	1450.6	1407.6	1336.9	1238.4	1118.4	975.1	830.1	694.0	574.0	351.9
35°	1494.5	1481.0	1430.9	1355.7	1251.8	1125.5	981.4	825.6	679.6	548.9	317.0
37.5°	1517.7	1502.5	1451.5	1368.2	1258.1	1127.3	980.5	819.3	664.4	528.3	282.1
40°	1533.9	1517.7	1463.1	1375.4	1259.9	1124.7	973.3	808.6	646.5	502.3	245.3
42.5°	1544.6	1526.7	1468.5	1386.1	1256.3	1117.5	962.6	795.1	626.8	479.9	210.4
45°	1550.0	1531.2	1469.4	1377.2	1250.0	1104.1	946.5	778.1	605.3	449.5	175.5
47.5°	1547.3	1526.7	1464.9	1367.3	1238.4	1089.7	928.6	757.5	579.3	422.6	142.4
50°	1542.8	1521.3	1455.1	1354.8	1222.3	1071.8	908.9	732.5	552.5	389.5	112.8
52.5°	1528.5	1507.0	1444.3	1336.9	1203.5	1051.2	882.0	706.5	523.8	357.3	86.0
55°	1510.6	1490.9	1425.5	1320.8	1179.3	1026.2	856.9	678.7	496.1	324.1	61.8
57.5°	1482.8	1464.9	1402.2	1294.8	1155.1	998.4	829.2	648.3	461.1	291.0	43.0
60°	1448.8	1430.9	1370.0	1265.2	1127.3	967.1	798.7	616.9	429.8	257.9	26.9
62.5°	1413.0	1396.0	1332.4	1228.5	1092.4	933.9	765.6	585.6	396.7	227.4	16.1
65°	1365.5	1349.4	1292.1	1184.6	1053.9	898.1	728.9	548.0	362.6	193.4	9.0
67.5°	1315.4	1301.1	1242.9	1144.4	1009.1	858.7	691.3	511.3	326.8	163.9	4.5
70°	1261.7	1243.7	1190.0	1089.7	963.5	813.9	650.1	473.7	292.8	135.2	0.0
72.5°	1199.0	1185.5	1133.6	1038.7	910.6	766.5	608.0	432.5	255.2	107.5	0.9
75°	1138.1	1121.1	1073.6	984.1	858.7	716.3	561.4	394.0	218.5	82.4	0.9
77.5°	1059.3	1053.9	1009.1	922.3	809.5	668.0	510.4	347.4	183.6	59.1	0.9
80°	980.5	975.1	940.2	860.5	752.2	610.7	462.9	303.5	149.5	39.4	0.9
82.5°	902.6	895.4	862.3	796.0	694.0	562.3	413.7	259.7	118.2	24.2	0.9
85°	832.7	823.8	788.0	727.1	634.0	507.7	362.6	216.7	87.8	13.4	1.8
87.5°	772.8	766.5	727.1	664.4	573.1	456.7	317.9	175.5	61.8	6.3	2.7
90°	721.7	708.3	673.4	607.1	515.8	400.3	270.4	140.6	41.2	3.6	3.6
92.5°	671.6	659.9	621.4	553.4	464.7	351.9	224.8	107.5	26.0	1.8	4.5
95°	619.6	607.1	569.5	506.8	412.8	302.7	184.5	78.8	14.3	1.8	4.5
97.5°	568.6	557.0	517.6	454.9	366.2	259.7	146.0	55.5	7.2	1.8	3.6
100°	521.1	507.7	471.9	409.2	319.7	216.7	112.8	35.8	4.5	1.8	3.6
102.5°	471.0	460.2	423.5	362.6	271.3	176.4	84.2	22.4	1.8	1.8	2.7
105°	426.2	412.8	377.0	314.3	231.0	138.8	59.1	13.4	1.8	1.8	2.7



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CANDELA DISTRIBUTION (continued):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	112.5°
112.5°	277.6	266.8	235.5	182.7	117.3	54.6	16.1	2.7	2.7	2.7	2.7
115°	231.9	215.8	188.0	141.5	86.9	35.8	8.1	2.7	2.7	2.7	2.7
117.5°	185.4	171.9	152.2	107.5	57.3	23.3	4.5	2.7	2.7	2.7	2.7
120°	145.1	132.5	110.1	74.3	38.5	13.4	1.8	2.7	2.7	2.7	2.7
122.5°	103.9	94.0	74.3	48.4	23.3	6.3	2.7	2.7	3.6	3.6	2.7
125°	68.9	63.6	49.2	29.5	14.3	2.7	2.7	2.7	3.6	3.6	2.7
127.5°	44.8	40.3	28.7	17.0	6.3	2.7	2.7	3.6	3.6	3.6	2.7
130°	25.1	22.4	17.0	9.8	2.7	2.7	2.7	3.6	3.6	3.6	2.7
132.5°	14.3	13.4	9.0	1.8	2.7	2.7	2.7	3.6	3.6	3.6	3.6
135°	3.6	1.8	1.8	1.8	2.7	2.7	3.6	3.6	4.5	4.5	3.6
137.5°	0.9	0.9	1.8	1.8	2.7	2.7	3.6	4.5	4.5	4.5	3.6
140°	0.9	0.9	1.8	2.7	2.7	2.7	3.6	4.5	4.5	4.5	3.6
142.5°	0.9	1.8	1.8	2.7	2.7	3.6	3.6	4.5	4.5	3.6	3.6
145°	0.9	1.8	1.8	2.7	2.7	3.6	3.6	4.5	3.6	3.6	3.6
147.5°	1.8	1.8	1.8	2.7	2.7	3.6	3.6	4.5	4.5	3.6	3.6
150°	0.9	1.8	1.8	2.7	3.6	3.6	3.6	4.5	3.6	3.6	3.6
152.5°	0.9	1.8	1.8	2.7	3.6	3.6	3.6	4.5	3.6	3.6	3.6
155°	1.8	1.8	1.8	2.7	3.6	3.6	3.6	4.5	3.6	3.6	4.5
157.5°	1.8	1.8	1.8	2.7	3.6	3.6	3.6	4.5	3.6	3.6	4.5
160°	1.8	1.8	1.8	2.7	2.7	3.6	3.6	3.6	3.6	3.6	3.6
162.5°	1.8	1.8	1.8	2.7	2.7	3.6	3.6	3.6	3.6	3.6	3.6
165°	1.8	1.8	1.8	1.8	2.7	2.7	3.6	3.6	3.6	3.6	3.6
167.5°	1.8	1.8	1.8	2.7	2.7	2.7	3.6	3.6	3.6	3.6	3.6
170°	1.8	1.8	1.8	2.7	2.7	2.7	3.6	4.5	4.5	4.5	4.5
172.5°	1.8	1.8	1.8	2.7	2.7	3.6	3.6	4.5	4.5	4.5	4.5
175°	1.8	1.8	1.8	2.7	2.7	3.6	3.6	4.5	4.5	4.5	4.5
177.5°	0.9	1.8	1.8	2.7	2.7	3.6	3.6	4.5	4.5	4.5	3.6
180°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7



TEST NUMBER: P551431

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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
0°	702.9	702.9	702.9
2.5°	668.9	656.3	652.8
5°	633.1	612.5	600.8
7.5°	597.2	569.5	556.1
10°	564.1	524.7	510.4
12.5°	524.7	479.1	456.7
15°	487.1	428.0	406.5
17.5°	445.0	378.8	353.7
20°	405.6	329.5	303.5
22.5°	360.9	281.2	252.5
25°	320.6	232.8	200.6
27.5°	275.8	183.6	155.8
30°	233.7	140.6	112.8
32.5°	193.4	103.0	77.9
35°	155.8	69.8	49.2
37.5°	120.0	43.0	25.1
40°	86.9	22.4	11.6
42.5°	58.2	10.7	6.3
45°	35.8	5.4	0.0
47.5°	20.6	0.0	0.0
50°	10.7	0.0	0.0
52.5°	4.5	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°	0.9	0.9	0.9
77.5°	0.9	1.8	2.7
80°	1.8	3.6	4.5
82.5°	3.6	4.5	4.5
85°	3.6	4.5	5.4
87.5°	4.5	5.4	6.3
90°	5.4	6.3	6.3
92.5°	5.4	7.2	7.2
95°	6.3	7.2	8.1
97.5°	7.2	8.1	8.1
100°	6.3	8.1	9.0
102.5°	5.4	8.1	8.1
105°	4.5	6.3	7.2



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CANDELA DISTRIBUTION (continued):

	135°	157.5°	180°
112.5°	3.6	4.5	4.5
115°	2.7	3.6	4.5
117.5°	2.7	3.6	3.6
120°	2.7	2.7	3.6
122.5°	2.7	2.7	3.6
125°	2.7	2.7	3.6
127.5°	3.6	2.7	2.7
130°	2.7	2.7	2.7
132.5°	3.6	2.7	2.7
135°	3.6	2.7	2.7
137.5°	3.6	2.7	2.7
140°	3.6	2.7	2.7
142.5°	3.6	2.7	2.7
145°	2.7	2.7	2.7
147.5°	2.7	2.7	2.7
150°	2.7	2.7	1.8
152.5°	2.7	1.8	1.8
155°	2.7	1.8	0.9
157.5°	3.6	1.8	0.9
160°	2.7	1.8	0.9
162.5°	2.7	1.8	0.9
165°	2.7	1.8	0.0
167.5°	2.7	1.8	0.9
170°	2.7	1.8	0.9
172.5°	2.7	1.8	0.9
175°	2.7	0.9	0.9
177.5°	2.7	0.9	0.9
180°	2.7	2.7	2.7



Report Generated By 670246072 / DESKTOP-MV3F9LC





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







107.5°	376.1	365.3	329.5	270.4	188.9	105.7	39.4	7.2	1.8	2.7	2.7
110°	327.7	318.8	282.1	224.8	152.2	78.8	26.0	4.5	2.7	2.7	2.7





107.5°	3.6	5.4	6.3
110°	3.6	4.5	5.4



(END OF REPORT)