

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: P556739

Luminaire Tested: **FUSL-12-4-LD4-1STD-35-UNV-81-85-EDD**

Issue Date: 7/16/2021

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: P556739  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2105-257-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/16/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FUSL-12-4-LD4-1STD-35-UNV-81-85-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

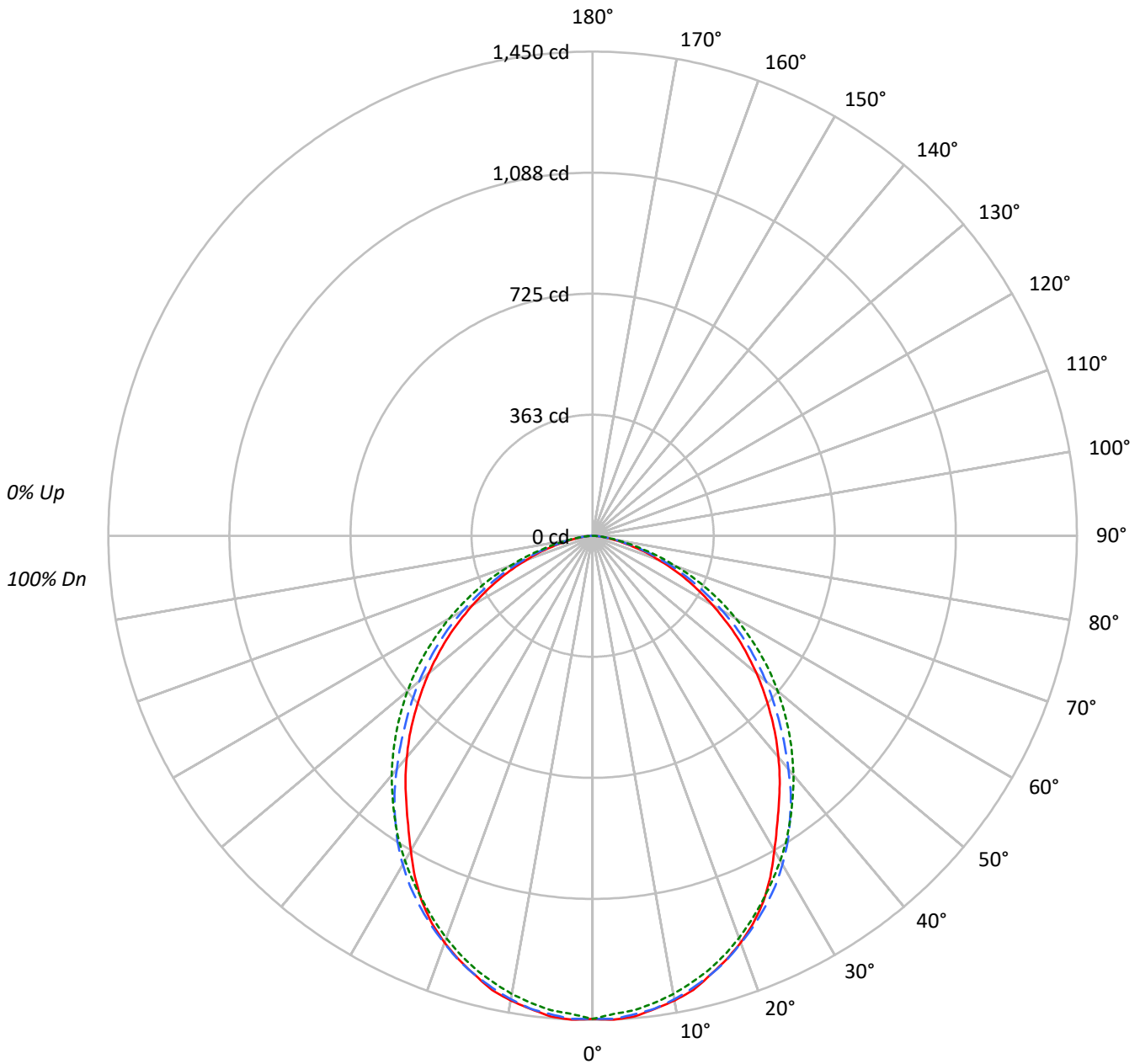
Lumens per Lamp: N/A  
Luminaire Lumens: 3345.0 lumens  
Efficiency: N/A  
Efficacy: 100.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86																			
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73																			
3	92	83	75	69	90	81	74	68	78	72	67	75	70	66	73	69	65	63																			
4	85	74	65	59	83	72	65	59	70	63	58	68	62	57	65	61	56	54																			
5	78	66	58	51	76	65	57	51	63	56	51	61	55	50	59	54	50	47																			
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42																			
7	68	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37																			
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34																			
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30																			
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	33	29	28																			

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

	0°	45°	90°
0°	3893	3893	3893
5°	3903	3887	3854
10°	3862	3851	3807
15°	3793	3793	3750
20°	3713	3718	3670
25°	3591	3635	3578
30°	3381	3533	3490
35°	3195	3387	3392
40°	3040	3204	3288
45°	2866	3009	3164
50°	2683	2836	3029
55°	2474	2639	2866
60°	2228	2408	2665
65°	1968	2141	2424
70°	1640	1823	2060
75°	1288	1456	1613
80°	922	1024	1137
85°	602	602	565



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.2	4.1
10°-20°	382.6	11.4
20°-30°	559.2	16.7
30°-40°	634.7	19.0
40°-50°	612.7	18.3
50°-60°	505.4	15.1
60°-70°	336.6	10.1
70°-80°	150.6	4.5
80°-90°	26.9	0.8
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1078.0	32.2
0°-40°	1712.7	51.2
0°-60°	2830.9	84.6
0°-90°	3345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3345.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1447	1447	1447	1447	1447	
5°	1445	1444	1439	1431	1427	137
15°	1362	1365	1362	1356	1346	384
25°	1209	1219	1224	1215	1205	554
35°	973	986	1031	1036	1033	609
45°	753	766	791	827	831	581
55°	527	536	562	594	611	471
65°	309	317	336	360	381	306
75°	124	131	140	147	155	135
85°	20	20	20	18	18	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1446.6	1446.6	1446.6	1446.6	1446.6
2.5°	1450.5	1451.1	1447.7	1438.8	1433.3
5°	1445.0	1444.4	1438.8	1431.1	1426.6
7.5°	1428.8	1430.0	1428.3	1417.2	1411.1
10°	1413.3	1413.8	1409.4	1400.5	1393.3
12.5°	1393.3	1392.7	1386.6	1382.2	1370.5
15°	1361.6	1364.9	1361.6	1355.5	1346.0
17.5°	1331.0	1331.0	1333.3	1322.7	1315.5
20°	1296.6	1298.2	1298.2	1289.9	1281.6
22.5°	1256.6	1261.6	1263.2	1254.3	1244.3
25°	1209.3	1218.8	1224.3	1215.4	1204.9
27.5°	1152.1	1166.5	1183.2	1176.5	1164.9
30°	1088.2	1109.3	1137.1	1131.5	1123.2
32.5°	1027.6	1048.7	1087.1	1084.8	1080.4
35°	972.6	985.9	1030.9	1036.5	1032.6
37.5°	920.3	932.6	974.8	987.6	984.2
40°	865.3	878.6	912.0	934.8	935.9
42.5°	810.8	823.6	850.9	883.6	883.6
45°	753.0	765.8	790.8	827.0	831.4
47.5°	696.4	709.7	734.2	770.3	777.5
50°	640.8	653.0	677.5	712.5	723.6
52.5°	583.0	596.3	620.2	652.5	668.6
55°	527.4	536.3	562.4	593.5	610.8
57.5°	469.6	477.9	507.4	534.1	551.9
60°	414.0	424.6	447.4	474.6	495.2
62.5°	360.7	371.8	391.3	415.1	438.5
65°	309.0	317.3	336.2	360.1	380.7
67.5°	259.0	266.2	285.1	301.8	323.4
70°	208.4	217.9	231.7	247.9	261.8
72.5°	167.8	171.7	183.4	195.1	209.5
75°	123.9	130.6	140.0	146.7	155.1
77.5°	88.9	92.8	98.4	103.9	111.7
80°	59.5	61.1	66.1	67.2	73.4
82.5°	36.1	37.2	38.3	38.9	41.1
85°	19.5	19.5	19.5	18.3	18.3
87.5°	11.1	11.1	9.4	7.8	5.6
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







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







(END OF REPORT)