

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: P556871

Luminaire Tested: **FUSL-12-4-LD4-1STD-50-UNV-81-87-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: P556871  
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-50-UNV-81-87-EDD  
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

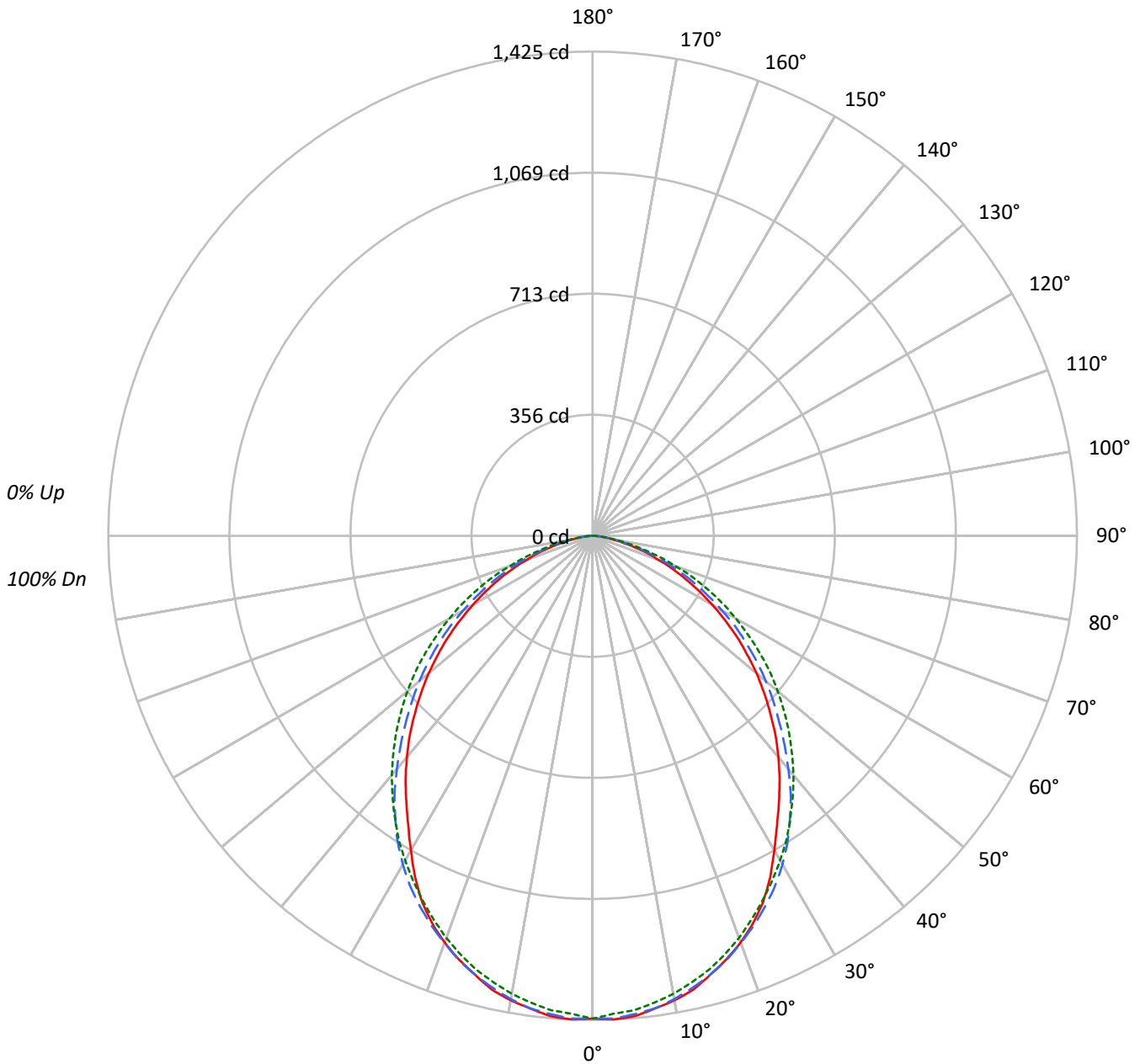
Lumens per Lamp: N/A  
Luminaire Lumens: 3286.0 lumens  
Efficiency: N/A  
Efficacy: 98.7 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	3824	3824	3824
5°	3834	3818	3786
10°	3794	3783	3740
15°	3726	3726	3684
20°	3647	3652	3605
25°	3527	3571	3514
30°	3322	3471	3429
35°	3139	3327	3332
40°	2986	3147	3230
45°	2815	2957	3108
50°	2635	2786	2976
55°	2431	2592	2815
60°	2189	2365	2618
65°	1933	2103	2381
70°	1611	1792	2023
75°	1265	1431	1583
80°	905	1007	1117
85°	590	590	556



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.8	4.1
10°-20°	375.9	11.4
20°-30°	549.3	16.7
30°-40°	623.5	19.0
40°-50°	601.9	18.3
50°-60°	496.5	15.1
60°-70°	330.6	10.1
70°-80°	148.0	4.5
80°-90°	26.5	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°	1059.0	32.2
0°-40°	1682.5	51.2
0°-60°	2780.9	84.6
0°-90°	3286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3286.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1421	1421	1421	1421	1421	
5°	1420	1419	1414	1406	1402	134
15°	1338	1341	1338	1332	1322	377
25°	1188	1197	1203	1194	1184	544
35°	955	968	1013	1018	1014	599
45°	740	752	777	812	817	571
55°	518	527	552	583	600	462
65°	304	312	330	354	374	301
75°	122	128	138	144	152	133
85°	19	19	19	18	18	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1421.1	1421.1	1421.1	1421.1	1421.1
2.5°	1424.9	1425.5	1422.2	1413.5	1408.0
5°	1419.5	1418.9	1413.5	1405.8	1401.5
7.5°	1403.6	1404.7	1403.1	1392.2	1386.2
10°	1388.4	1388.9	1384.5	1375.8	1368.7
12.5°	1368.7	1368.2	1362.1	1357.8	1346.3
15°	1337.6	1340.9	1337.6	1331.6	1322.3
17.5°	1307.6	1307.6	1309.7	1299.4	1292.3
20°	1273.7	1275.3	1275.3	1267.2	1259.0
22.5°	1234.4	1239.3	1240.9	1232.2	1222.4
25°	1188.0	1197.3	1202.7	1194.0	1183.6
27.5°	1131.8	1146.0	1162.3	1155.8	1144.3
30°	1069.0	1089.7	1117.0	1111.6	1103.4
32.5°	1009.5	1030.2	1067.9	1065.7	1061.3
35°	955.4	968.5	1012.7	1018.2	1014.4
37.5°	904.1	916.1	957.6	970.2	966.9
40°	850.0	863.1	895.9	918.3	919.4
42.5°	796.5	809.1	835.9	868.1	868.1
45°	739.8	752.3	776.9	812.4	816.7
47.5°	684.1	697.2	721.2	756.7	763.8
50°	629.5	641.5	665.5	699.9	710.8
52.5°	572.7	585.8	609.3	640.9	656.8
55°	518.1	526.8	552.5	583.1	600.0
57.5°	461.3	469.5	498.5	524.7	542.1
60°	406.7	417.1	439.5	466.2	486.4
62.5°	354.3	365.2	384.3	407.8	430.8
65°	303.5	311.7	330.3	353.8	374.0
67.5°	254.4	261.5	280.1	296.5	317.7
70°	204.7	214.0	227.7	243.5	257.1
72.5°	164.9	168.7	180.2	191.6	205.8
75°	121.7	128.3	137.6	144.1	152.3
77.5°	87.4	91.2	96.6	102.1	109.7
80°	58.4	60.1	65.0	66.1	72.1
82.5°	35.5	36.6	37.7	38.2	40.4
85°	19.1	19.1	19.1	18.0	18.0
87.5°	10.9	10.9	9.3	7.6	5.5
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)