

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: P556713

Luminaire Tested: **FUSL-12-4-LD4-1STD-30-UNV-93-88-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: P556713
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-30-UNV-93-88-EDD
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE
AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

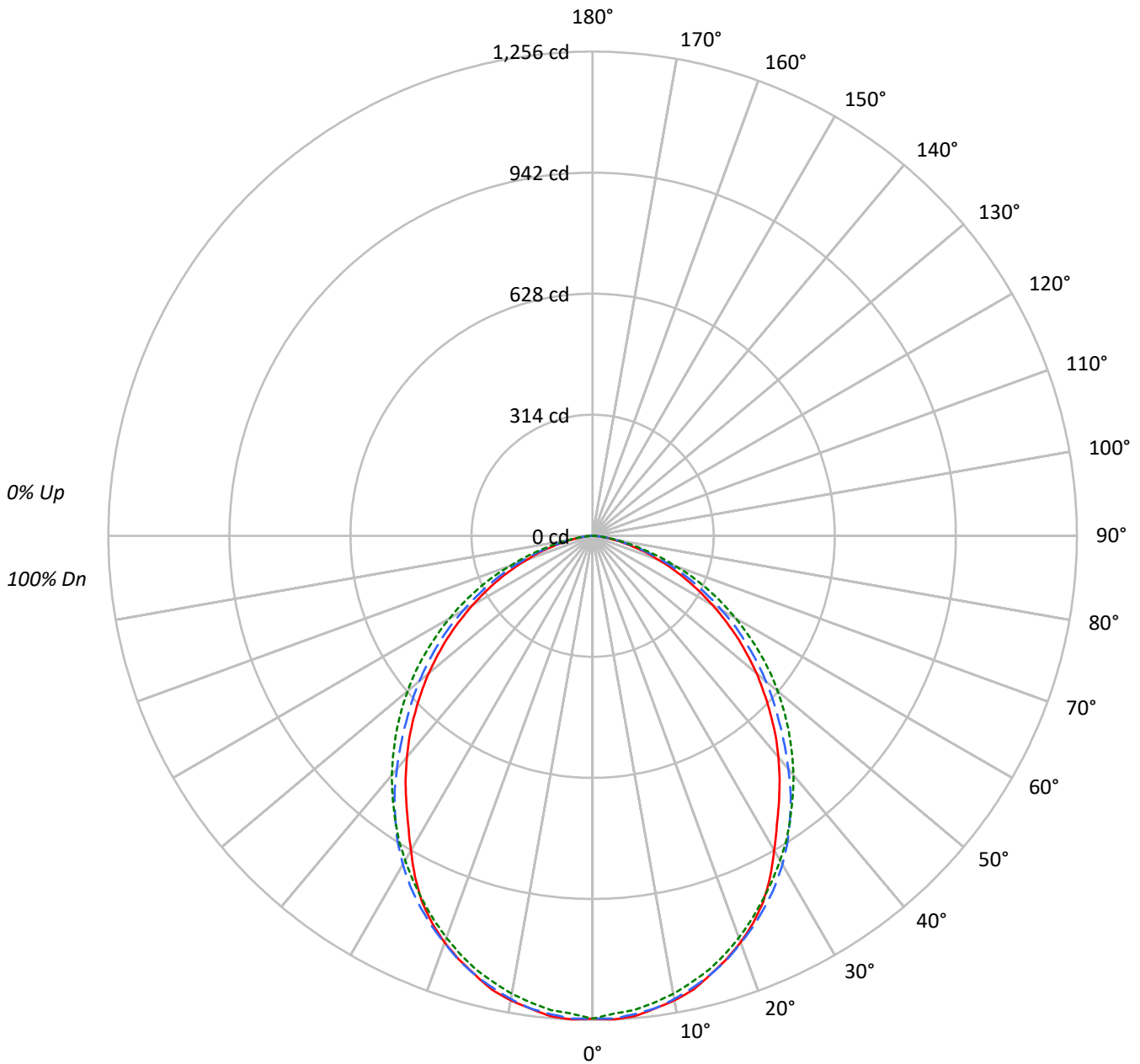
Lumens per Lamp: N/A
Luminaire Lumens: 2896.0 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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	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°	3370	3370	3370
5°	3379	3365	3336
10°	3343	3334	3296
15°	3284	3284	3247
20°	3214	3219	3177
25°	3109	3147	3097
30°	2927	3059	3022
35°	2766	2932	2937
40°	2632	2774	2846
45°	2481	2606	2739
50°	2323	2455	2623
55°	2142	2284	2481
60°	1929	2084	2307
65°	1703	1854	2099
70°	1419	1578	1783
75°	1116	1261	1395
80°	798	888	984
85°	519	519	491



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.9	4.1
10°-20°	331.3	11.4
20°-30°	484.1	16.7
30°-40°	549.5	19.0
40°-50°	530.5	18.3
50°-60°	437.6	15.1
60°-70°	291.4	10.1
70°-80°	130.4	4.5
80°-90°	23.3	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°	933.3	32.2
0°-40°	1482.8	51.2
0°-60°	2450.9	84.6
0°-90°	2896.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2896.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1252	1252	1252	1252	1252	
5°	1251	1250	1246	1239	1235	118
15°	1179	1182	1179	1174	1165	332
25°	1047	1055	1060	1052	1043	479
35°	842	854	892	897	894	528
45°	652	663	685	716	720	503
55°	457	464	487	514	529	408
65°	268	275	291	312	330	265
75°	107	113	121	127	134	117
85°	17	17	17	16	16	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1252.4	1252.4	1252.4	1252.4	1252.4
2.5°	1255.8	1256.3	1253.4	1245.7	1240.9
5°	1251.0	1250.5	1245.7	1239.0	1235.1
7.5°	1237.0	1238.0	1236.6	1226.9	1221.7
10°	1223.6	1224.1	1220.2	1212.5	1206.3
12.5°	1206.3	1205.8	1200.5	1196.6	1186.5
15°	1178.8	1181.7	1178.8	1173.5	1165.4
17.5°	1152.4	1152.4	1154.3	1145.1	1138.9
20°	1122.5	1124.0	1124.0	1116.8	1109.5
22.5°	1087.9	1092.2	1093.7	1086.0	1077.3
25°	1047.0	1055.2	1060.0	1052.3	1043.1
27.5°	997.4	1009.9	1024.4	1018.6	1008.5
30°	942.1	960.4	984.4	979.6	972.4
32.5°	889.7	907.9	941.1	939.2	935.4
35°	842.0	853.6	892.5	897.4	894.0
37.5°	796.8	807.4	843.9	855.0	852.1
40°	749.2	760.7	789.6	809.3	810.3
42.5°	702.0	713.1	736.6	765.0	765.0
45°	652.0	663.0	684.7	716.0	719.8
47.5°	602.9	614.4	635.6	666.9	673.1
50°	554.8	565.4	586.5	616.8	626.5
52.5°	504.7	516.3	537.0	564.9	578.8
55°	456.6	464.3	486.9	513.9	528.8
57.5°	406.6	413.8	439.3	462.4	477.8
60°	358.5	367.6	387.3	410.9	428.7
62.5°	312.3	321.9	338.7	359.4	379.6
65°	267.5	274.7	291.1	311.8	329.6
67.5°	224.2	230.5	246.8	261.3	280.0
70°	180.4	188.6	200.6	214.6	226.6
72.5°	145.3	148.7	158.8	168.9	181.4
75°	107.3	113.1	121.3	127.0	134.2
77.5°	77.0	80.4	85.2	90.0	96.7
80°	51.5	52.9	57.3	58.2	63.5
82.5°	31.3	32.2	33.2	33.7	35.6
85°	16.8	16.8	16.8	15.9	15.9
87.5°	9.6	9.6	8.2	6.7	4.8
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)