

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: P556834

Luminaire Tested: **FUSL-12-4-LD4-1STD-40-UNV-93-85-EDD-90**

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: P556834
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-40-UNV-93-85-EDD-90
Description: 4FT FUSL SURFACE MOUNT WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE
AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

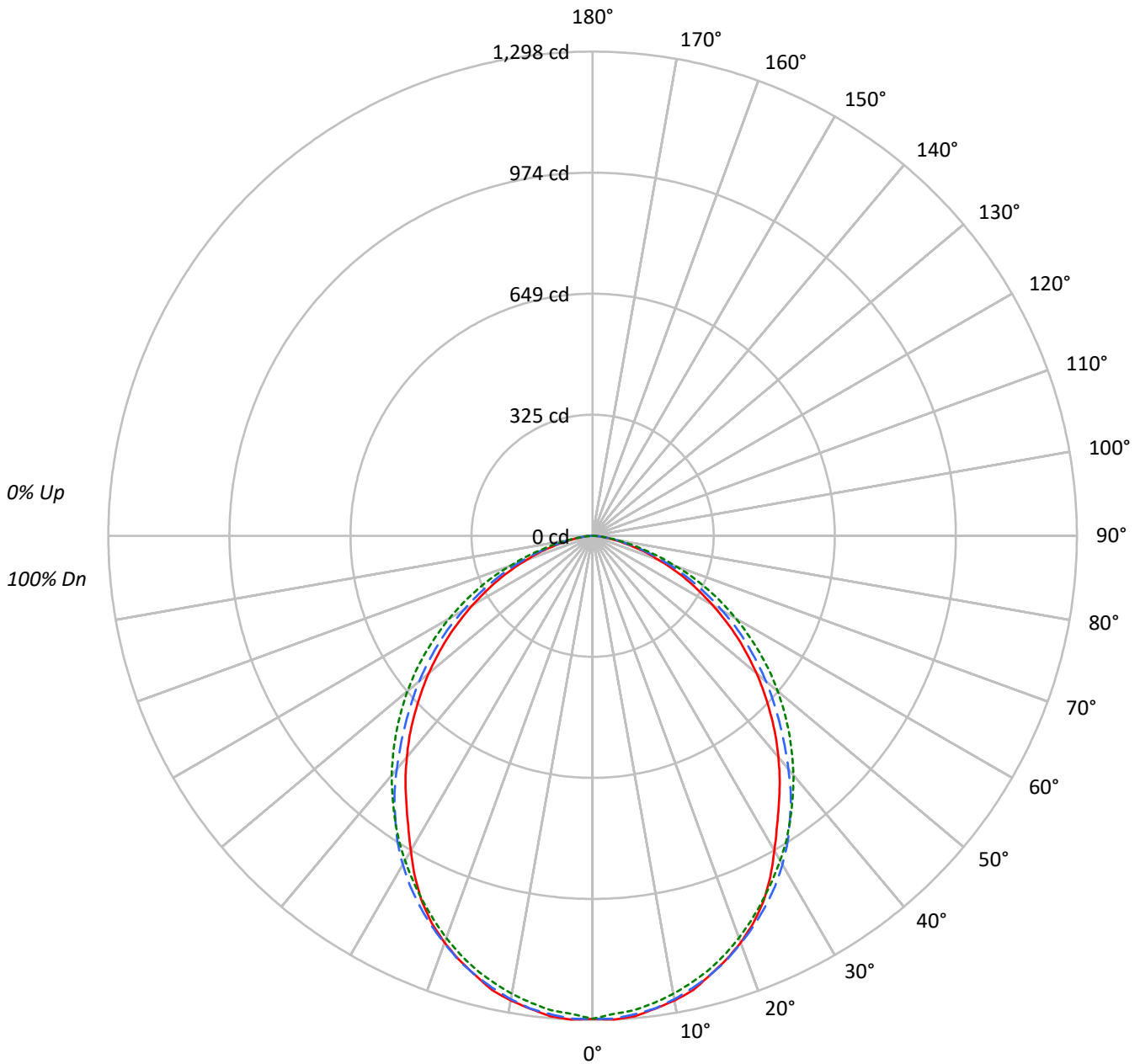
Lumens per Lamp: N/A
Luminaire Lumens: 2994.0 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.16 / 1.26
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3484	3484	3484
5°	3494	3479	3449
10°	3457	3447	3408
15°	3395	3395	3356
20°	3323	3328	3285
25°	3214	3254	3202
30°	3026	3163	3124
35°	2860	3031	3036
40°	2721	2868	2943
45°	2565	2694	2832
50°	2401	2539	2712
55°	2215	2362	2565
60°	1995	2155	2385
65°	1761	1916	2169
70°	1467	1632	1843
75°	1153	1304	1443
80°	824	917	1018
85°	537	537	506



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.9	4.1
10°-20°	342.5	11.4
20°-30°	500.5	16.7
30°-40°	568.1	19.0
40°-50°	548.4	18.3
50°-60°	452.4	15.1
60°-70°	301.3	10.1
70°-80°	134.8	4.5
80°-90°	24.1	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°	964.9	32.2
0°-40°	1533.0	51.2
0°-60°	2533.8	84.6
0°-90°	2994.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2994.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1295	1295	1295	1295	1295	
5°	1293	1293	1288	1281	1277	122
15°	1219	1222	1219	1213	1205	344
25°	1082	1091	1096	1088	1078	496
35°	870	882	923	928	924	545
45°	674	686	708	740	744	520
55°	472	480	503	531	547	421
65°	277	284	301	322	341	274
75°	111	117	125	131	139	121
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°	1294.8	1294.8	1294.8	1294.8	1294.8
2.5°	1298.3	1298.8	1295.8	1287.9	1282.9
5°	1293.3	1292.8	1287.9	1280.9	1276.9
7.5°	1278.9	1279.9	1278.4	1268.5	1263.0
10°	1265.0	1265.5	1261.5	1253.5	1247.1
12.5°	1247.1	1246.6	1241.1	1237.1	1226.7
15°	1218.7	1221.7	1218.7	1213.2	1204.8
17.5°	1191.4	1191.4	1193.4	1183.9	1177.4
20°	1160.5	1162.0	1162.0	1154.6	1147.1
22.5°	1124.7	1129.2	1130.7	1122.7	1113.8
25°	1082.4	1090.9	1095.9	1087.9	1078.4
27.5°	1031.2	1044.1	1059.0	1053.1	1042.6
30°	974.0	992.9	1017.8	1012.8	1005.3
32.5°	919.8	938.7	973.0	971.0	967.0
35°	870.5	882.5	922.7	927.7	924.2
37.5°	823.8	834.7	872.5	883.9	881.0
40°	774.5	786.4	816.3	836.7	837.7
42.5°	725.8	737.2	761.6	790.9	790.9
45°	674.0	685.5	707.9	740.2	744.2
47.5°	623.3	635.2	657.1	689.4	695.9
50°	573.5	584.5	606.4	637.7	647.7
52.5°	521.8	533.7	555.1	584.0	598.4
55°	472.1	480.0	503.4	531.3	546.7
57.5°	420.3	427.8	454.2	478.0	494.0
60°	370.6	380.0	400.4	424.8	443.2
62.5°	322.8	332.8	350.2	371.6	392.5
65°	276.6	284.0	300.9	322.3	340.7
67.5°	231.8	238.3	255.2	270.1	289.5
70°	186.5	195.0	207.4	221.9	234.3
72.5°	150.2	153.7	164.2	174.6	187.5
75°	110.9	116.9	125.4	131.3	138.8
77.5°	79.6	83.1	88.0	93.0	100.0
80°	53.2	54.7	59.2	60.2	65.7
82.5°	32.3	33.3	34.3	34.8	36.8
85°	17.4	17.4	17.4	16.4	16.4
87.5°	9.9	9.9	8.5	7.0	5.0
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)