

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: P547411

Luminaire Tested: **FMR-24-4-LD4-4LO-40-UNV-93-88-EDD**

Issue Date: 6/15/2021

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: P547411
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 6/15/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FMR-24-4-LD4-4LO-40-UNV-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

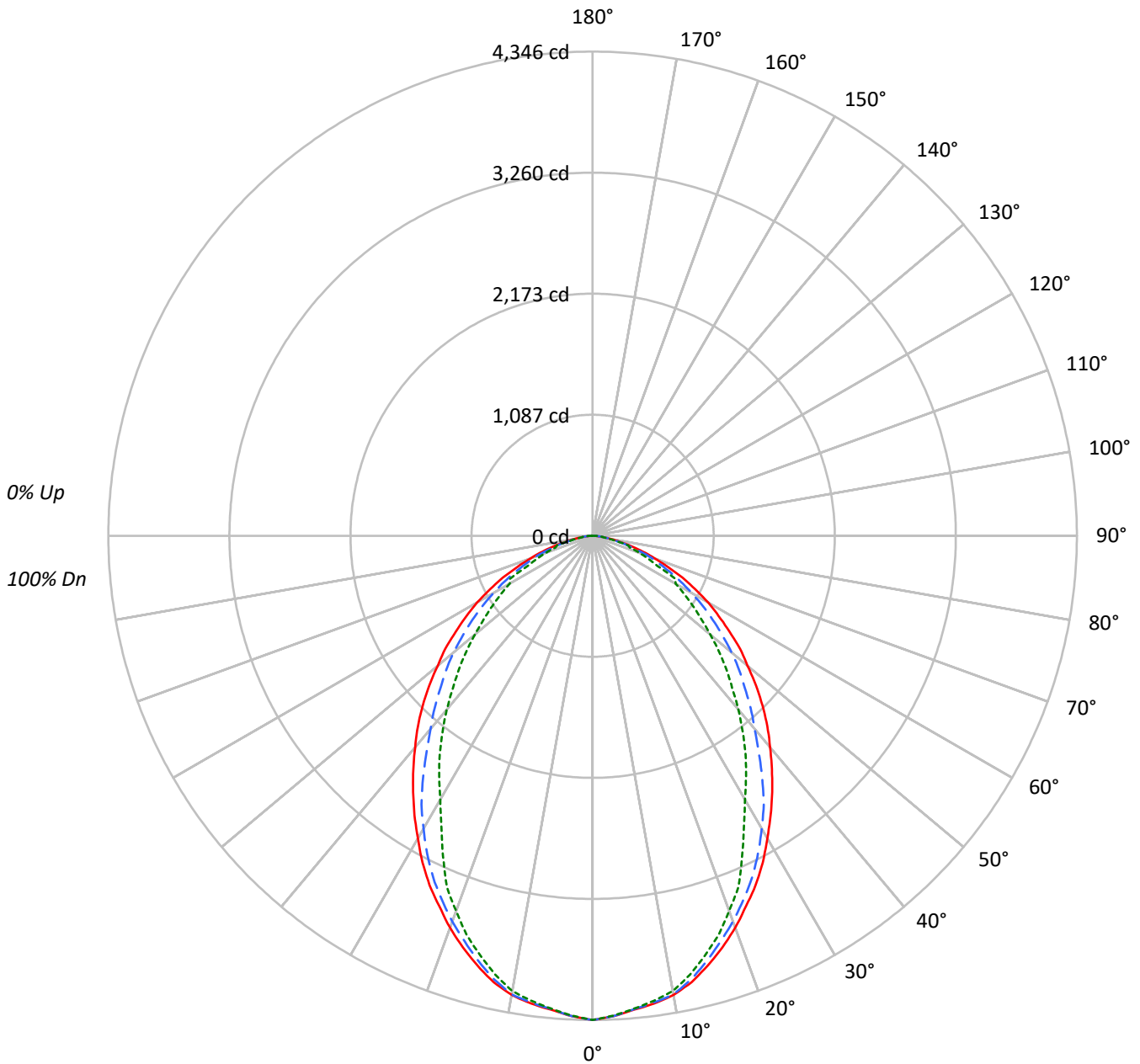
Lumens per Lamp: N/A
Luminaire Lumens: 8532.0 lumens
Efficiency: N/A
Efficacy: 91.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5848	5848	5848
5°	5768	5761	5755
10°	5718	5711	5670
15°	5564	5508	5431
20°	5360	5273	5129
25°	5139	5027	4714
30°	4871	4715	4247
35°	4613	4357	3928
40°	4351	3971	3574
45°	4102	3671	3231
50°	3797	3408	2882
55°	3512	3088	2581
60°	3218	2758	2312
65°	2831	2415	2047
70°	2332	2115	1739
75°	1854	1619	1698
80°	1246	1168	1090
85°	775	931	1085



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	404.6	4.7
10°-20°	1110.3	13.0
20°-30°	1537.1	18.0
30°-40°	1639.0	19.2
40°-50°	1495.3	17.5
50°-60°	1171.4	13.7
60°-70°	763.5	8.9
70°-80°	338.2	4.0
80°-90°	72.6	0.9
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°	3052.0	35.8
0°-40°	4691.0	55.0
0°-60°	7357.7	86.2
0°-90°	8532.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8532.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4346	4346	4346	4346	4346	
5°	4271	4266	4266	4261	4261	405
15°	3994	3994	3954	3914	3899	1123
25°	3462	3442	3386	3266	3175	1589
35°	2809	2788	2653	2452	2392	1756
45°	2156	2110	1929	1769	1698	1660
55°	1497	1452	1316	1161	1100	1343
65°	889	839	759	774	643	876
75°	357	332	312	296	327	382
85°	50	55	60	65	70	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4346.1	4346.1	4346.1	4346.1	4346.1
2.5°	4315.9	4315.9	4315.9	4310.9	4310.9
5°	4270.7	4265.7	4265.7	4260.7	4260.7
7.5°	4235.6	4230.5	4225.5	4220.5	4210.4
10°	4185.3	4185.3	4180.3	4155.2	4150.1
12.5°	4104.9	4099.9	4079.8	4044.6	4034.6
15°	3994.4	3994.4	3954.2	3914.0	3898.9
17.5°	3873.8	3868.8	3818.5	3778.3	3758.2
20°	3743.2	3733.1	3682.9	3617.6	3582.4
22.5°	3597.5	3597.5	3537.2	3451.7	3416.6
25°	3461.8	3441.7	3386.4	3265.8	3175.4
27.5°	3306.0	3275.9	3215.6	3044.8	2939.3
30°	3135.2	3120.1	3034.7	2813.7	2733.3
32.5°	2974.4	2949.3	2858.9	2627.7	2562.4
35°	2808.6	2788.5	2652.9	2451.9	2391.6
37.5°	2642.8	2617.7	2446.9	2286.1	2210.7
40°	2477.0	2446.9	2261.0	2115.3	2034.9
42.5°	2321.3	2281.1	2100.2	1944.4	1854.0
45°	2155.5	2110.2	1929.4	1768.6	1698.2
47.5°	1989.7	1949.5	1783.7	1617.8	1537.5
50°	1813.8	1778.6	1627.9	1462.1	1376.7
52.5°	1668.1	1612.8	1467.1	1301.3	1231.0
55°	1497.3	1452.0	1316.4	1160.6	1100.3
57.5°	1341.5	1296.3	1170.7	1025.0	974.7
60°	1195.8	1130.5	1025.0	899.4	859.2
62.5°	1035.0	984.8	894.3	788.8	839.1
65°	889.3	839.1	758.7	773.8	643.1
67.5°	728.5	703.4	633.1	562.7	542.6
70°	592.9	562.7	537.6	462.2	442.1
72.5°	472.3	442.1	407.0	366.8	351.7
75°	356.7	331.6	311.5	296.4	326.6
77.5°	246.2	236.1	221.1	206.0	201.0
80°	160.8	155.8	150.7	145.7	140.7
82.5°	95.5	95.5	95.5	95.5	95.5
85°	50.2	55.3	60.3	65.3	70.3
87.5°	30.1	30.1	35.2	40.2	45.2
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)