

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: P546216

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-82-85-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: P546216
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-12-4-LD4-2LO-35-UNV-82-85-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

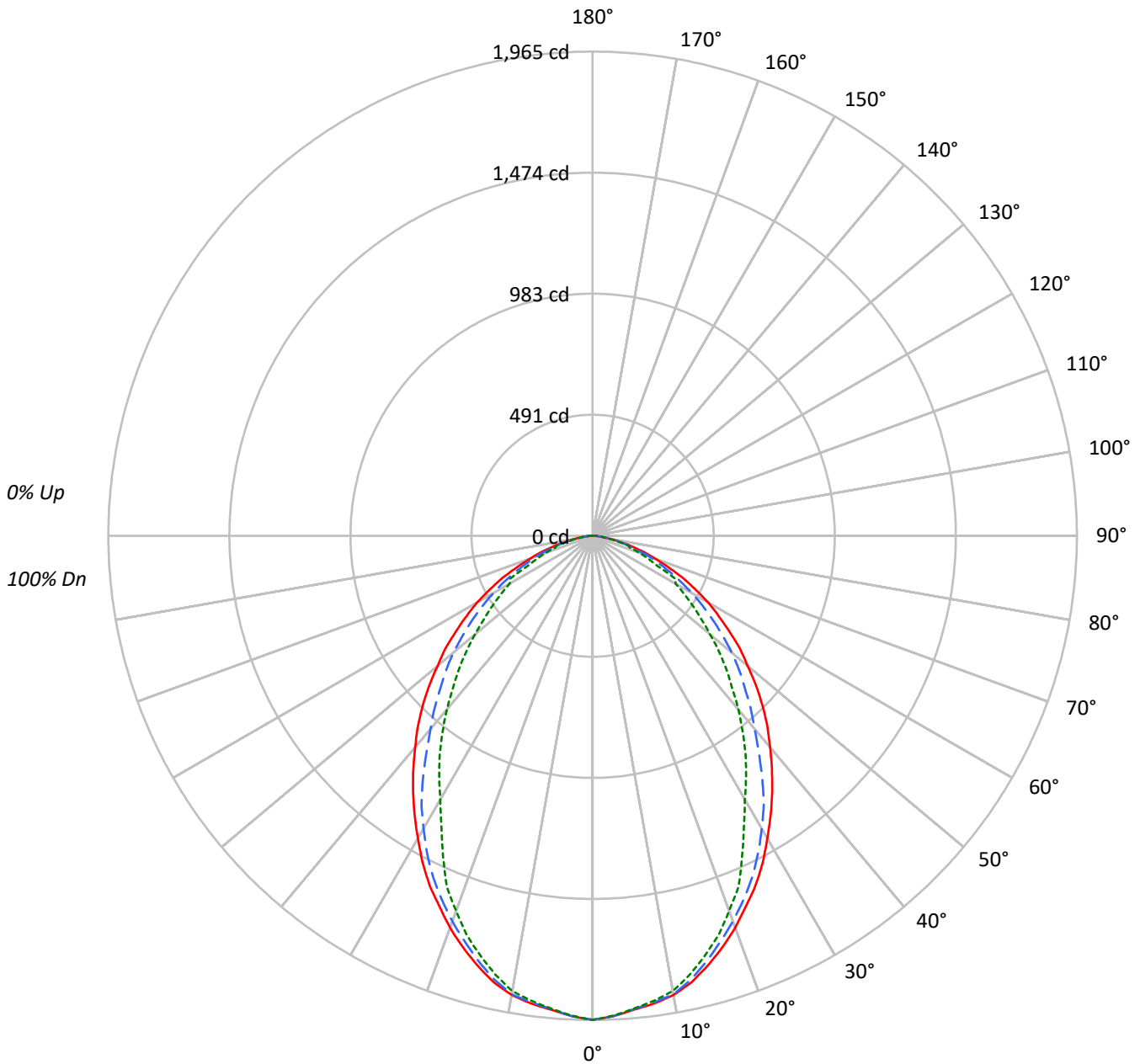
Lumens per Lamp: N/A
Luminaire Lumens: 3857.0 lumens
Efficiency: N/A
Efficacy: 82.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	5287	5287	5287
5°	5215	5209	5203
10°	5170	5164	5126
15°	5031	4980	4910
20°	4846	4768	4638
25°	4646	4545	4262
30°	4404	4263	3839
35°	4171	3940	3552
40°	3934	3590	3231
45°	3708	3319	2922
50°	3433	3081	2605
55°	3176	2792	2334
60°	2909	2494	2090
65°	2560	2184	1851
70°	2109	1912	1573
75°	1677	1464	1535
80°	1127	1055	986
85°	701	843	982



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.9	4.7
10°-20°	501.9	13.0
20°-30°	694.9	18.0
30°-40°	740.9	19.2
40°-50°	676.0	17.5
50°-60°	529.6	13.7
60°-70°	345.1	8.9
70°-80°	152.9	4.0
80°-90°	32.8	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°	1379.7	35.8
0°-40°	2120.6	55.0
0°-60°	3326.1	86.2
0°-90°	3857.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3857.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1965	1965	1965	1965	1965	
5°	1931	1928	1928	1926	1926	183
15°	1806	1806	1788	1769	1763	508
25°	1565	1556	1531	1476	1436	718
35°	1270	1261	1199	1108	1081	794
45°	974	954	872	800	768	751
55°	677	656	595	525	497	607
65°	402	379	343	350	291	396
75°	161	150	141	134	148	173
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1964.7	1964.7	1964.7	1964.7	1964.7
2.5°	1951.1	1951.1	1951.1	1948.8	1948.8
5°	1930.6	1928.4	1928.4	1926.1	1926.1
7.5°	1914.7	1912.5	1910.2	1907.9	1903.4
10°	1892.0	1892.0	1889.8	1878.4	1876.1
12.5°	1855.7	1853.4	1844.3	1828.4	1823.9
15°	1805.7	1805.7	1787.5	1769.4	1762.6
17.5°	1751.2	1748.9	1726.2	1708.0	1699.0
20°	1692.1	1687.6	1664.9	1635.4	1619.5
22.5°	1626.3	1626.3	1599.0	1560.4	1544.5
25°	1564.9	1555.9	1530.9	1476.4	1435.5
27.5°	1494.5	1480.9	1453.7	1376.4	1328.7
30°	1417.3	1410.5	1371.9	1271.9	1235.6
32.5°	1344.6	1333.3	1292.4	1187.9	1158.4
35°	1269.7	1260.6	1199.3	1108.4	1081.2
37.5°	1194.7	1183.4	1106.1	1033.5	999.4
40°	1119.8	1106.1	1022.1	956.2	919.9
42.5°	1049.4	1031.2	949.4	879.0	838.1
45°	974.4	954.0	872.2	799.5	767.7
47.5°	899.4	881.3	806.3	731.4	695.0
50°	820.0	804.1	735.9	661.0	622.3
52.5°	754.1	729.1	663.2	588.3	556.5
55°	676.9	656.4	595.1	524.7	497.4
57.5°	606.4	586.0	529.2	463.4	440.6
60°	540.6	511.1	463.4	406.6	388.4
62.5°	467.9	445.2	404.3	356.6	379.3
65°	402.0	379.3	343.0	349.8	290.7
67.5°	329.3	318.0	286.2	254.4	245.3
70°	268.0	254.4	243.0	209.0	199.9
72.5°	213.5	199.9	184.0	165.8	159.0
75°	161.3	149.9	140.8	134.0	147.6
77.5°	111.3	106.8	99.9	93.1	90.9
80°	72.7	70.4	68.1	65.9	63.6
82.5°	43.2	43.2	43.2	43.2	43.2
85°	22.7	25.0	27.3	29.5	31.8
87.5°	13.6	13.6	15.9	18.2	20.4
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)