

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: P546819

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-81-88-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: P546819
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-LD4-2LO-40-UNV-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

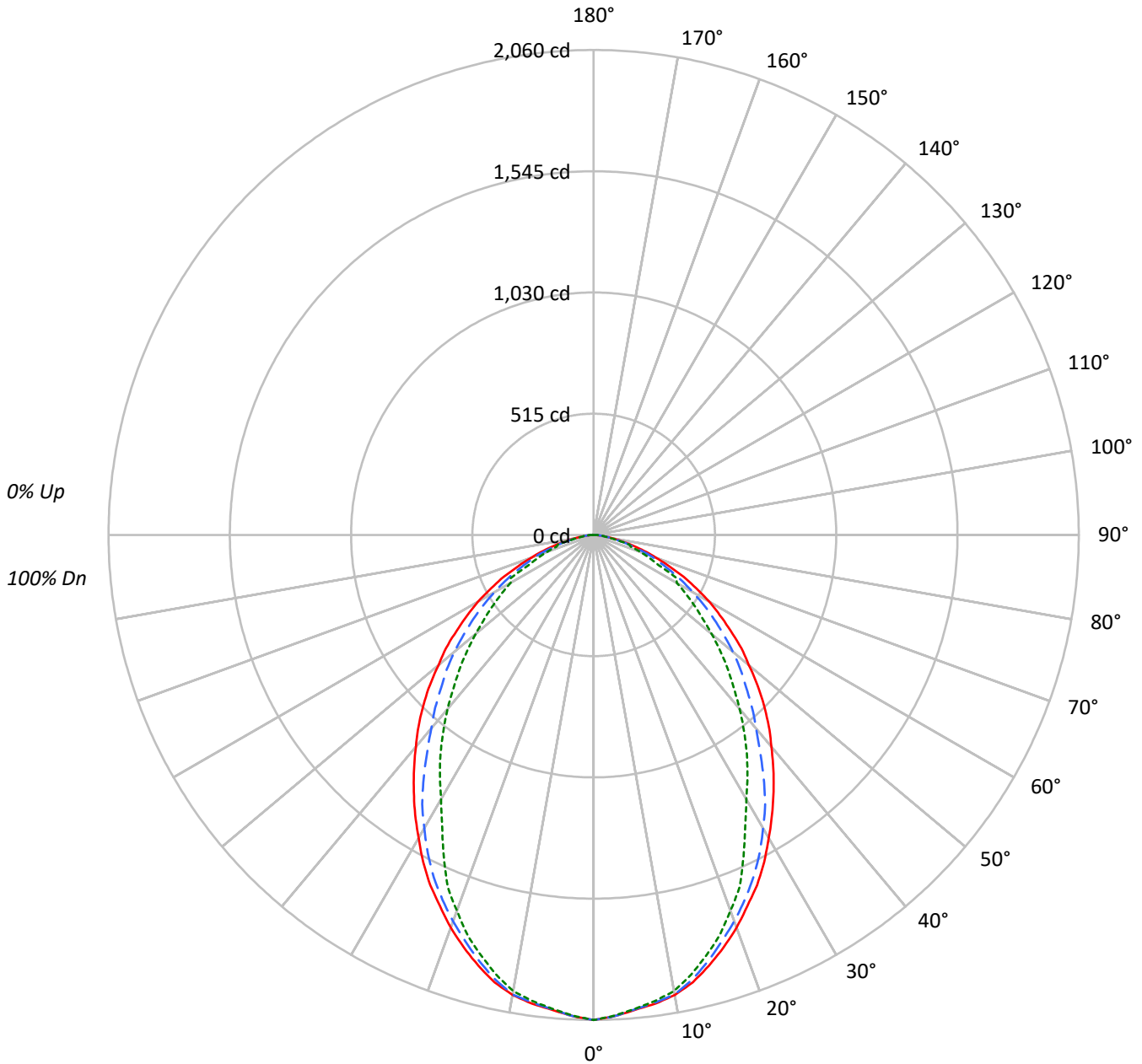
Lumens per Lamp: N/A
Luminaire Lumens: 4045.0 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P546819

CATALOG NUMBER: FMR-24-4-LD4-2LO-40-UNV-81-88-EDD

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°	2772	2772	2772
5°	2735	2732	2728
10°	2711	2708	2688
15°	2638	2611	2575
20°	2541	2500	2432
25°	2436	2383	2235
30°	2309	2235	2013
35°	2187	2066	1862
40°	2063	1883	1694
45°	1944	1740	1532
50°	1800	1616	1366
55°	1665	1464	1224
60°	1526	1308	1096
65°	1342	1145	971
70°	1106	1003	825
75°	879	768	805
80°	590	554	517
85°	367	442	514



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.8	4.7
10°-20°	526.4	13.0
20°-30°	728.7	18.0
30°-40°	777.0	19.2
40°-50°	708.9	17.5
50°-60°	555.4	13.7
60°-70°	362.0	8.9
70°-80°	160.4	4.0
80°-90°	34.4	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°	1446.9	35.8
0°-40°	2224.0	55.0
0°-60°	3488.2	86.2
0°-90°	4045.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4045.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2060	2060	2060	2060	2060	
5°	2025	2022	2022	2020	2020	192
15°	1894	1894	1875	1856	1848	532
25°	1641	1632	1606	1548	1506	753
35°	1332	1322	1258	1162	1134	832
45°	1022	1000	915	838	805	787
55°	710	688	624	550	522	637
65°	422	398	360	367	305	416
75°	169	157	148	140	155	181
85°	24	26	29	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2060.5	2060.5	2060.5	2060.5	2060.5
2.5°	2046.2	2046.2	2046.2	2043.8	2043.8
5°	2024.7	2022.4	2022.4	2020.0	2020.0
7.5°	2008.1	2005.7	2003.3	2000.9	1996.2
10°	1984.2	1984.2	1981.9	1970.0	1967.6
12.5°	1946.1	1943.7	1934.2	1917.5	1912.8
15°	1893.7	1893.7	1874.7	1855.6	1848.5
17.5°	1836.6	1834.2	1810.4	1791.3	1781.8
20°	1774.6	1769.9	1746.0	1715.1	1698.4
22.5°	1705.5	1705.5	1677.0	1636.5	1619.8
25°	1641.2	1631.7	1605.5	1548.3	1505.5
27.5°	1567.4	1553.1	1524.5	1443.5	1393.5
30°	1486.4	1479.2	1438.8	1333.9	1295.8
32.5°	1410.2	1398.3	1355.4	1245.8	1214.8
35°	1331.6	1322.0	1257.7	1162.4	1133.9
37.5°	1253.0	1241.0	1160.1	1083.8	1048.1
40°	1174.3	1160.1	1071.9	1002.8	964.7
42.5°	1100.5	1081.4	995.7	921.9	879.0
45°	1021.9	1000.5	914.7	838.5	805.1
47.5°	943.3	924.2	845.6	767.0	728.9
50°	859.9	843.2	771.8	693.2	652.7
52.5°	790.8	764.6	695.6	616.9	583.6
55°	709.8	688.4	624.1	550.3	521.7
57.5°	636.0	614.6	555.0	485.9	462.1
60°	566.9	536.0	485.9	426.4	407.3
62.5°	490.7	466.9	424.0	374.0	397.8
65°	421.6	397.8	359.7	366.8	304.9
67.5°	345.4	333.5	300.1	266.8	257.3
70°	281.1	266.8	254.9	219.1	209.6
72.5°	223.9	209.6	192.9	173.9	166.7
75°	169.1	157.2	147.7	140.5	154.8
77.5°	116.7	112.0	104.8	97.7	95.3
80°	76.2	73.8	71.5	69.1	66.7
82.5°	45.3	45.3	45.3	45.3	45.3
85°	23.8	26.2	28.6	31.0	33.3
87.5°	14.3	14.3	16.7	19.1	21.4
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)