

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: P546731

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-82-88-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: P546731
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-LD4-2HI-40-UNV-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 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

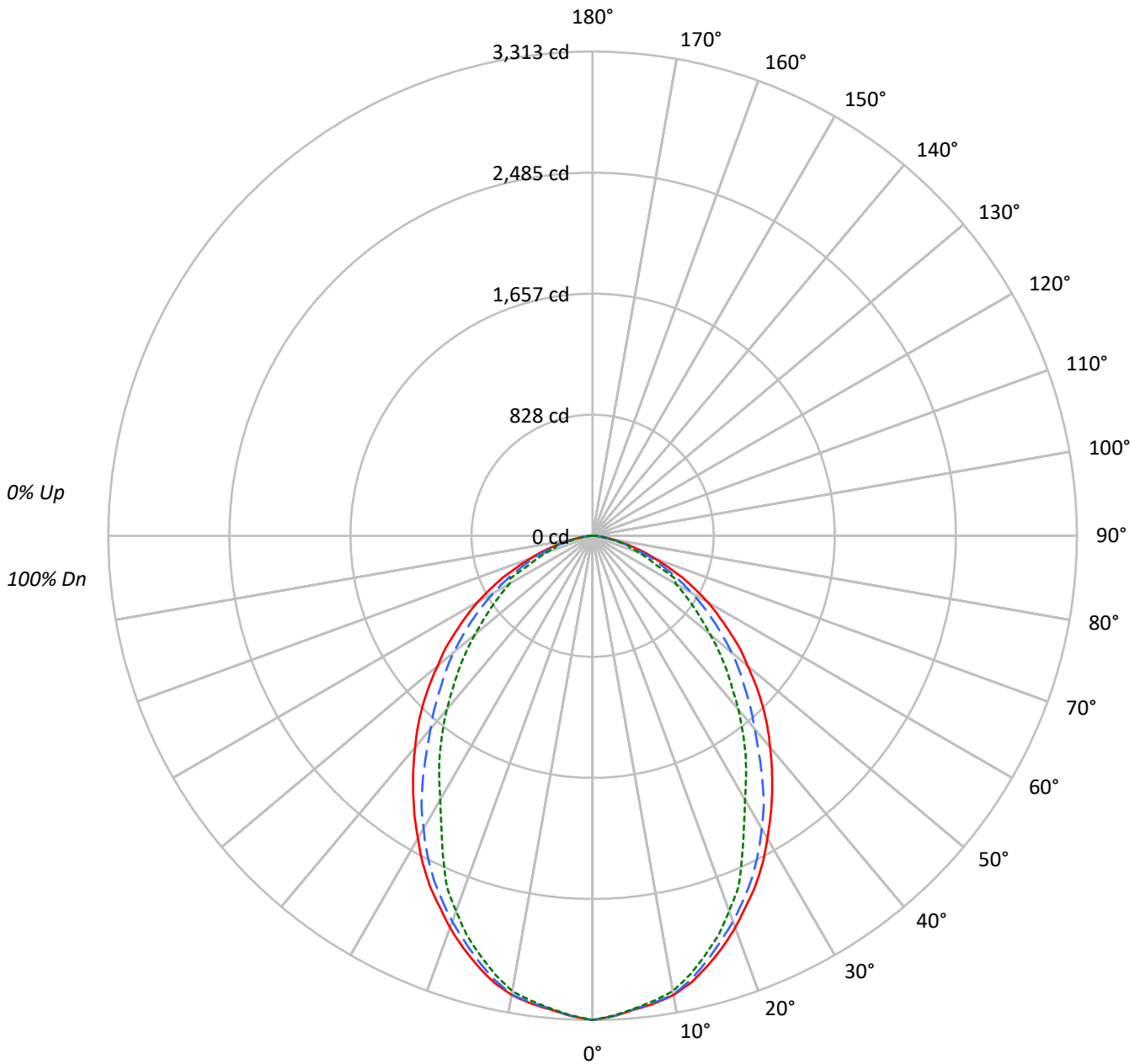
Lumens per Lamp: N/A
Luminaire Lumens: 6504.0 lumens
Efficiency: N/A
Efficacy: 75.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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: P546731

CATALOG NUMBER: FMR-24-4-LD4-2HI-40-UNV-82-88-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4458	4458	4458
5°	4397	4392	4387
10°	4359	4354	4322
15°	4241	4199	4140
20°	4086	4020	3910
25°	3918	3832	3594
30°	3713	3594	3237
35°	3517	3322	2995
40°	3316	3027	2725
45°	3127	2799	2463
50°	2894	2598	2197
55°	2677	2354	1968
60°	2453	2102	1762
65°	2158	1841	1561
70°	1778	1612	1326
75°	1413	1235	1294
80°	950	890	831
85°	591	710	827



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	308.4	4.7
10°-20°	846.4	13.0
20°-30°	1171.8	18.0
30°-40°	1249.4	19.2
40°-50°	1139.9	17.5
50°-60°	893.0	13.7
60°-70°	582.0	8.9
70°-80°	257.9	4.0
80°-90°	55.4	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°	2326.5	35.8
0°-40°	3576.0	55.0
0°-60°	5608.8	86.2
0°-90°	6504.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6504.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3313	3313	3313	3313	3313	
5°	3256	3252	3252	3248	3248	309
15°	3045	3045	3014	2984	2972	856
25°	2639	2624	2582	2490	2421	1212
35°	2141	2126	2022	1869	1823	1339
45°	1643	1609	1471	1348	1295	1266
55°	1141	1107	1004	885	839	1024
65°	678	640	578	590	490	668
75°	272	253	238	226	249	291
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3313.1	3313.1	3313.1	3313.1	3313.1
2.5°	3290.1	3290.1	3290.1	3286.2	3286.2
5°	3255.6	3251.8	3251.8	3247.9	3247.9
7.5°	3228.8	3225.0	3221.1	3217.3	3209.6
10°	3190.5	3190.5	3186.7	3167.5	3163.7
12.5°	3129.2	3125.4	3110.1	3083.2	3075.6
15°	3044.9	3044.9	3014.3	2983.7	2972.2
17.5°	2953.0	2949.2	2910.9	2880.2	2864.9
20°	2853.4	2845.8	2807.5	2757.7	2730.9
22.5°	2742.4	2742.4	2696.4	2631.3	2604.5
25°	2639.0	2623.6	2581.5	2489.6	2420.6
27.5°	2520.2	2497.2	2451.3	2321.1	2240.6
30°	2390.0	2378.5	2313.4	2144.9	2083.6
32.5°	2267.4	2248.3	2179.3	2003.2	1953.4
35°	2141.0	2125.7	2022.3	1869.1	1823.1
37.5°	2014.6	1995.5	1865.3	1742.7	1685.3
40°	1888.2	1865.3	1723.6	1612.5	1551.2
42.5°	1769.5	1738.9	1601.0	1482.3	1413.3
45°	1643.1	1608.6	1470.8	1348.2	1294.6
47.5°	1516.7	1486.1	1359.7	1233.3	1172.0
50°	1382.7	1355.9	1241.0	1114.6	1049.5
52.5°	1271.6	1229.5	1118.4	992.0	938.4
55°	1141.4	1106.9	1003.5	884.8	838.8
57.5°	1022.6	988.2	892.4	781.3	743.0
60°	911.6	861.8	781.3	685.6	654.9
62.5°	789.0	750.7	681.8	601.3	639.6
65°	677.9	639.6	578.3	589.8	490.3
67.5°	555.4	536.2	482.6	429.0	413.7
70°	452.0	429.0	409.8	352.4	337.1
72.5°	360.0	337.1	310.2	279.6	268.1
75°	271.9	252.8	237.5	226.0	249.0
77.5°	187.7	180.0	168.5	157.0	153.2
80°	122.6	118.7	114.9	111.1	107.2
82.5°	72.8	72.8	72.8	72.8	72.8
85°	38.3	42.1	46.0	49.8	53.6
87.5°	23.0	23.0	26.8	30.6	34.5
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)