

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: P546732

Luminaire Tested: **FMR-24-4-LD4-2HI-40-UNV-82-94-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: P546732
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-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

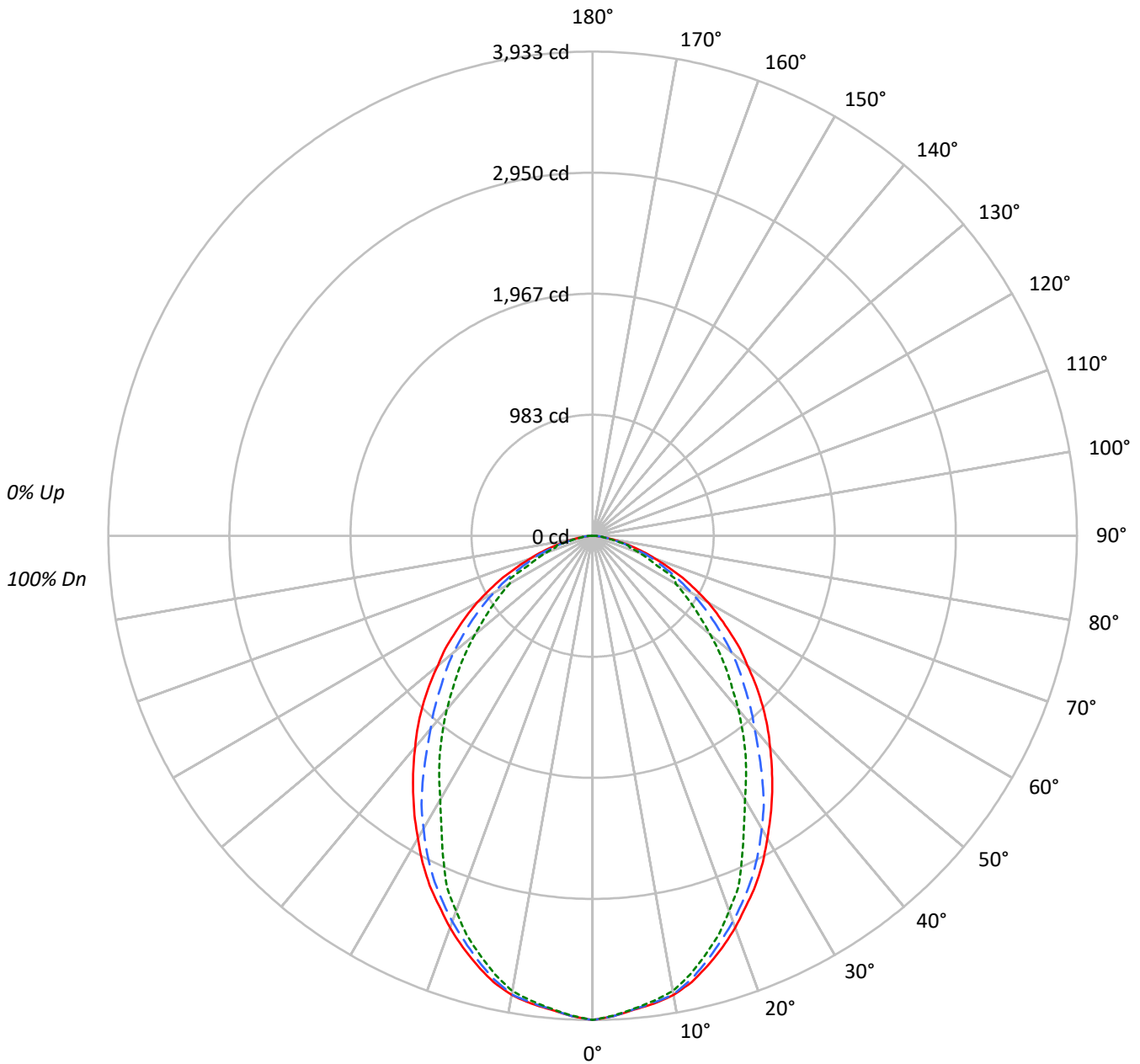
Lumens per Lamp: N/A
Luminaire Lumens: 7721.0 lumens
Efficiency: N/A
Efficacy: 89.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
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	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°	5292	5292	5292
5°	5220	5214	5208
10°	5175	5168	5131
15°	5035	4984	4915
20°	4850	4772	4642
25°	4651	4550	4266
30°	4408	4267	3843
35°	4175	3943	3555
40°	3937	3594	3234
45°	3712	3322	2924
50°	3436	3084	2608
55°	3178	2795	2336
60°	2912	2496	2092
65°	2562	2186	1853
70°	2111	1914	1574
75°	1678	1465	1536
80°	1127	1057	986
85°	702	843	983



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.1	4.7
10°-20°	1004.8	13.0
20°-30°	1391.0	18.0
30°-40°	1483.2	19.2
40°-50°	1353.1	17.5
50°-60°	1060.1	13.7
60°-70°	690.9	8.9
70°-80°	306.1	4.0
80°-90°	65.7	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°	2761.9	35.8
0°-40°	4245.1	55.0
0°-60°	6658.3	86.2
0°-90°	7721.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7721.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3933	3933	3933	3933	3933	
5°	3865	3860	3860	3856	3856	367
15°	3615	3615	3578	3542	3528	1016
25°	3133	3115	3064	2955	2874	1438
35°	2542	2524	2401	2219	2164	1589
45°	1951	1910	1746	1600	1537	1503
55°	1355	1314	1191	1050	996	1215
65°	805	759	687	700	582	793
75°	323	300	282	268	296	346
85°	46	50	55	59	64	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3933.0	3933.0	3933.0	3933.0	3933.0
2.5°	3905.7	3905.7	3905.7	3901.1	3901.1
5°	3864.8	3860.2	3860.2	3855.7	3855.7
7.5°	3832.9	3828.4	3823.9	3819.3	3810.2
10°	3787.5	3787.5	3782.9	3760.2	3755.6
12.5°	3714.7	3710.2	3692.0	3660.2	3651.1
15°	3614.7	3614.7	3578.3	3542.0	3528.3
17.5°	3505.6	3501.0	3455.6	3419.2	3401.0
20°	3387.4	3378.3	3332.8	3273.7	3241.9
22.5°	3255.5	3255.5	3200.9	3123.6	3091.8
25°	3132.7	3114.6	3064.5	2955.4	2873.6
27.5°	2991.8	2964.5	2909.9	2755.4	2659.9
30°	2837.2	2823.6	2746.3	2546.2	2473.5
32.5°	2691.7	2669.0	2587.1	2378.0	2318.9
35°	2541.7	2523.5	2400.7	2218.8	2164.3
37.5°	2391.6	2368.9	2214.3	2068.8	2000.6
40°	2241.6	2214.3	2046.1	1914.2	1841.5
42.5°	2100.6	2064.2	1900.6	1759.6	1677.8
45°	1950.6	1909.7	1746.0	1600.5	1536.8
47.5°	1800.5	1764.2	1614.1	1464.1	1391.3
50°	1641.4	1609.6	1473.2	1323.1	1245.8
52.5°	1509.5	1459.5	1327.7	1177.6	1114.0
55°	1354.9	1314.0	1191.3	1050.3	995.7
57.5°	1214.0	1173.1	1059.4	927.5	882.1
60°	1082.1	1023.0	927.5	813.9	777.5
62.5°	936.6	891.2	809.3	713.8	759.3
65°	804.8	759.3	686.6	700.2	582.0
67.5°	659.3	636.6	572.9	509.2	491.1
70°	536.5	509.2	486.5	418.3	400.1
72.5°	427.4	400.1	368.3	331.9	318.3
75°	322.8	300.1	281.9	268.3	295.5
77.5°	222.8	213.7	200.1	186.4	181.9
80°	145.5	141.0	136.4	131.9	127.3
82.5°	86.4	86.4	86.4	86.4	86.4
85°	45.5	50.0	54.6	59.1	63.7
87.5°	27.3	27.3	31.8	36.4	40.9
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)