

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: P546692

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-81-94-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: P546692
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-35-UNV-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

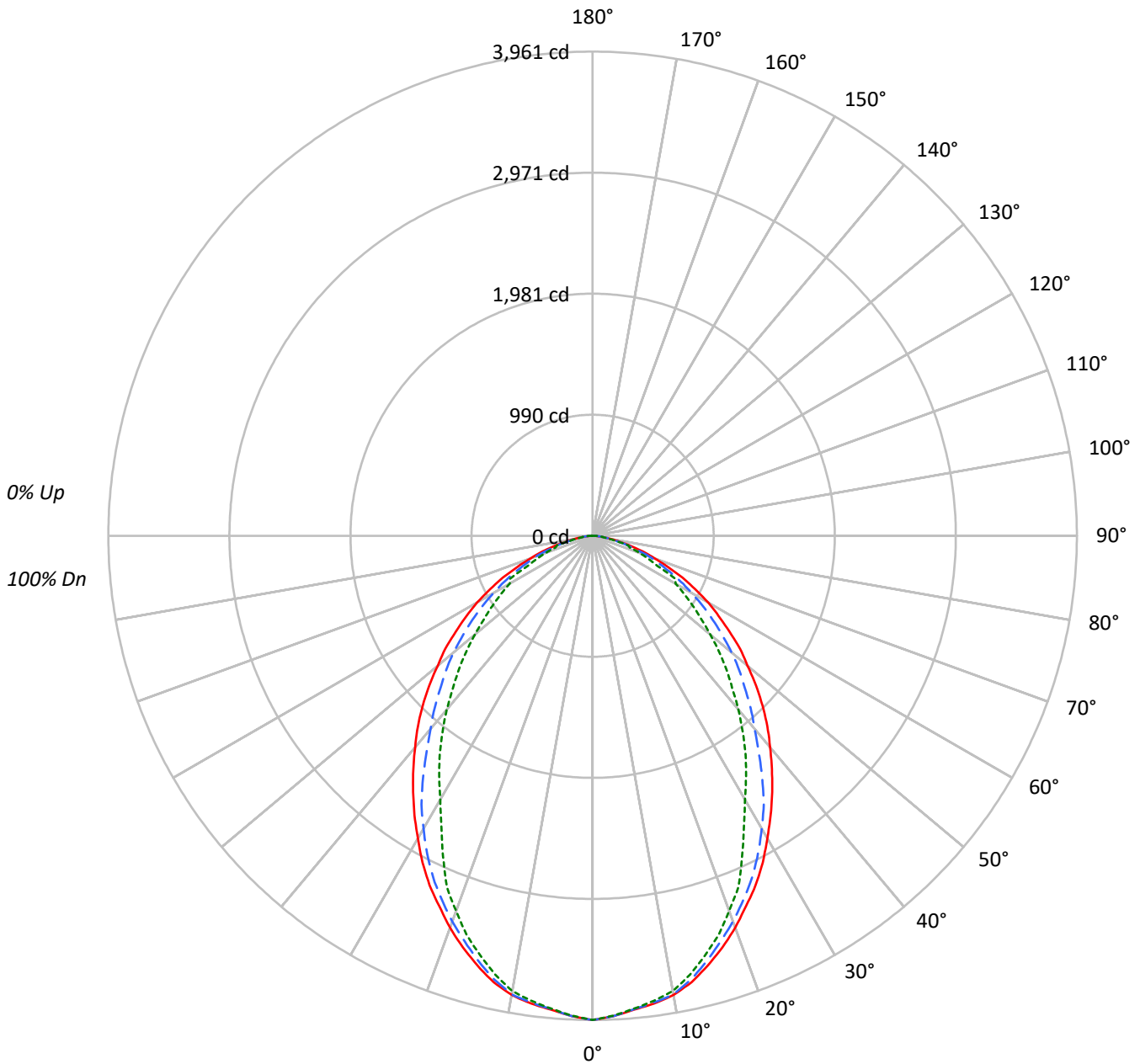
Lumens per Lamp: N/A
Luminaire Lumens: 7776.0 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	5329	5329	5329
5°	5257	5251	5245
10°	5212	5205	5168
15°	5071	5020	4950
20°	4885	4806	4675
25°	4684	4582	4296
30°	4439	4297	3870
35°	4205	3971	3580
40°	3965	3619	3257
45°	3738	3346	2945
50°	3460	3106	2626
55°	3201	2814	2352
60°	2933	2514	2107
65°	2580	2202	1866
70°	2126	1928	1585
75°	1690	1476	1547
80°	1135	1065	993
85°	707	849	990



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	368.7	4.7
10°-20°	1011.9	13.0
20°-30°	1400.9	18.0
30°-40°	1493.8	19.2
40°-50°	1362.8	17.5
50°-60°	1067.6	13.7
60°-70°	695.8	8.9
70°-80°	308.3	4.0
80°-90°	66.2	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°	2781.5	35.8
0°-40°	4275.3	55.0
0°-60°	6705.7	86.2
0°-90°	7776.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7776.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3961	3961	3961	3961	3961	
5°	3892	3888	3888	3883	3883	369
15°	3640	3640	3604	3567	3553	1023
25°	3155	3137	3086	2976	2894	1448
35°	2560	2541	2418	2235	2180	1600
45°	1964	1923	1758	1612	1548	1513
55°	1365	1323	1200	1058	1003	1224
65°	810	765	692	705	586	799
75°	325	302	284	270	298	348
85°	46	50	55	60	64	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3961.0	3961.0	3961.0	3961.0	3961.0
2.5°	3933.5	3933.5	3933.5	3928.9	3928.9
5°	3892.3	3887.7	3887.7	3883.1	3883.1
7.5°	3860.2	3855.7	3851.1	3846.5	3837.4
10°	3814.5	3814.5	3809.9	3787.0	3782.4
12.5°	3741.2	3736.6	3718.3	3686.2	3677.1
15°	3640.4	3640.4	3603.8	3567.2	3553.4
17.5°	3530.5	3526.0	3480.2	3443.5	3425.2
20°	3411.5	3402.3	3356.5	3297.0	3265.0
22.5°	3278.7	3278.7	3223.7	3145.9	3113.8
25°	3155.1	3136.7	3086.4	2976.5	2894.0
27.5°	3013.1	2985.6	2930.7	2775.0	2678.8
30°	2857.4	2843.7	2765.8	2564.3	2491.1
32.5°	2710.9	2688.0	2605.6	2394.9	2335.4
35°	2559.8	2541.4	2417.8	2234.6	2179.7
37.5°	2408.6	2385.8	2230.1	2083.5	2014.8
40°	2257.5	2230.1	2060.6	1927.8	1854.6
42.5°	2115.6	2078.9	1914.1	1772.1	1689.7
45°	1964.5	1923.3	1758.4	1611.9	1547.8
47.5°	1813.4	1776.7	1625.6	1474.5	1401.2
50°	1653.1	1621.0	1483.7	1332.5	1254.7
52.5°	1520.3	1469.9	1337.1	1186.0	1121.9
55°	1364.6	1323.4	1199.7	1057.8	1002.8
57.5°	1222.6	1181.4	1066.9	934.2	888.4
60°	1089.8	1030.3	934.2	819.7	783.0
62.5°	943.3	897.5	815.1	718.9	764.7
65°	810.5	764.7	691.5	705.2	586.1
67.5°	664.0	641.1	577.0	512.9	494.6
70°	540.3	512.9	490.0	421.3	403.0
72.5°	430.4	403.0	370.9	334.3	320.5
75°	325.1	302.2	283.9	270.2	297.6
77.5°	224.4	215.2	201.5	187.7	183.2
80°	146.5	142.0	137.4	132.8	128.2
82.5°	87.0	87.0	87.0	87.0	87.0
85°	45.8	50.4	55.0	59.5	64.1
87.5°	27.5	27.5	32.1	36.6	41.2
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)