

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: P546990

Luminaire Tested: **FMR-24-4-LD4-3HI-35-UNV-82-97-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: P546990
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-LD4-3HI-35-UNV-82-97-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

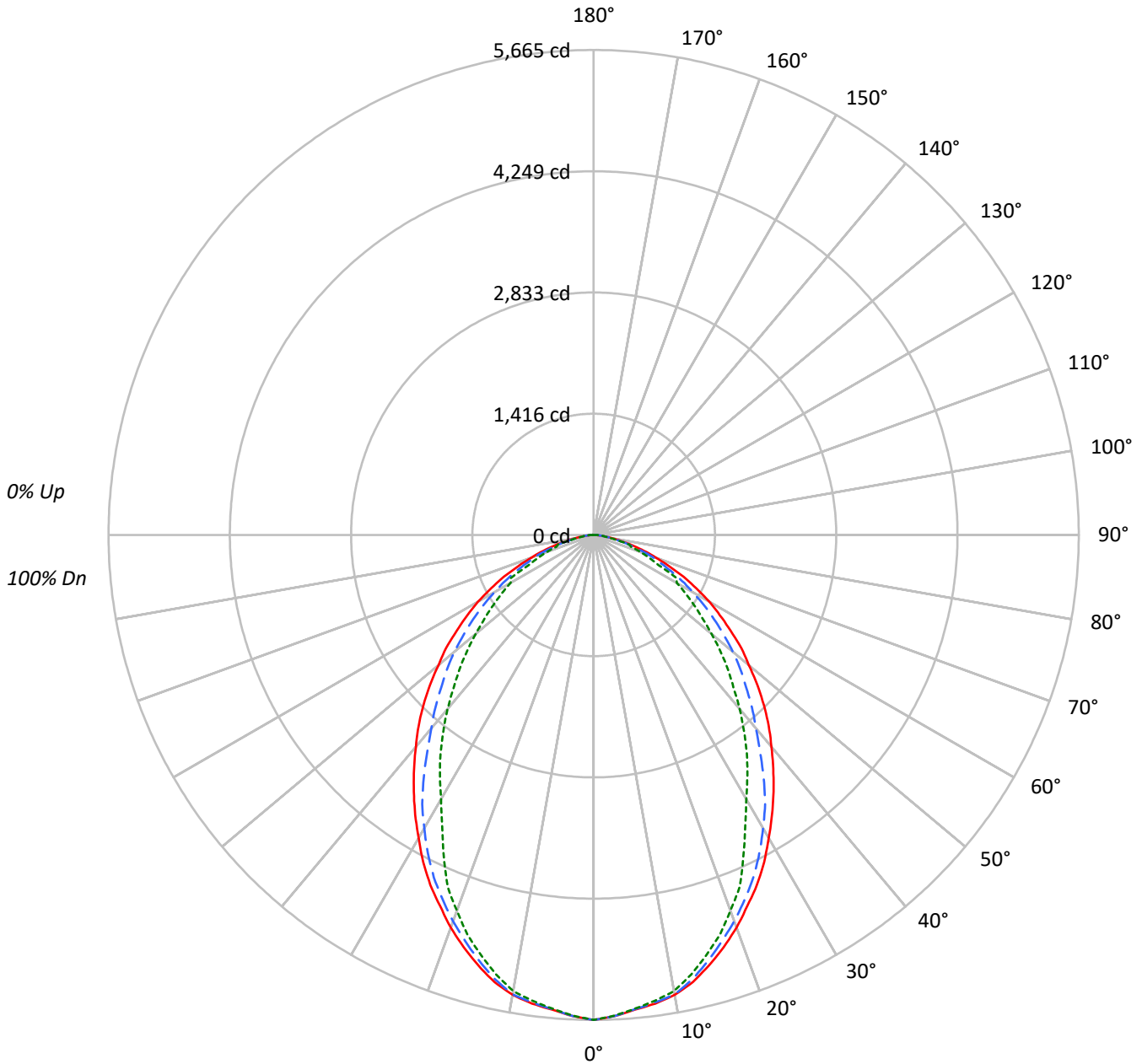
Lumens per Lamp: N/A
Luminaire Lumens: 11122.0 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 129.6
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°	7623	7623	7623
5°	7519	7510	7502
10°	7454	7445	7391
15°	7253	7180	7080
20°	6987	6874	6687
25°	6699	6554	6145
30°	6350	6146	5536
35°	6014	5680	5121
40°	5671	5177	4659
45°	5347	4786	4212
50°	4949	4442	3756
55°	4579	4025	3365
60°	4195	3595	3014
65°	3691	3149	2669
70°	3041	2757	2268
75°	2417	2111	2213
80°	1624	1523	1421
85°	1011	1213	1416



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	527.4	4.7
10°-20°	1447.3	13.0
20°-30°	2003.7	18.0
30°-40°	2136.6	19.2
40°-50°	1949.2	17.5
50°-60°	1527.0	13.7
60°-70°	995.2	8.9
70°-80°	440.9	4.0
80°-90°	94.6	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°	3978.4	35.8
0°-40°	6115.0	55.0
0°-60°	9591.2	86.2
0°-90°	11122.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11122.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5665	5665	5665	5665	5665	
5°	5567	5561	5561	5554	5554	528
15°	5207	5207	5154	5102	5082	1464
25°	4513	4486	4414	4257	4139	2072
35°	3661	3635	3458	3196	3118	2289
45°	2810	2751	2515	2306	2214	2164
55°	1952	1893	1716	1513	1434	1751
65°	1159	1094	989	1009	838	1142
75°	465	432	406	386	426	498
85°	66	72	79	85	92	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5665.4	5665.4	5665.4	5665.4	5665.4
2.5°	5626.1	5626.1	5626.1	5619.6	5619.6
5°	5567.2	5560.6	5560.6	5554.1	5554.1
7.5°	5521.3	5514.8	5508.2	5501.7	5488.6
10°	5455.8	5455.8	5449.3	5416.5	5410.0
12.5°	5351.0	5344.5	5318.3	5272.4	5259.3
15°	5206.9	5206.9	5154.5	5102.1	5082.5
17.5°	5049.7	5043.2	4977.7	4925.3	4899.1
20°	4879.4	4866.3	4800.9	4715.7	4669.9
22.5°	4689.5	4689.5	4610.9	4499.6	4453.7
25°	4512.7	4486.5	4414.4	4257.2	4139.3
27.5°	4309.6	4270.3	4191.7	3969.1	3831.5
30°	4086.9	4067.3	3956.0	3667.8	3563.0
32.5°	3877.4	3844.6	3726.7	3425.4	3340.3
35°	3661.2	3635.0	3458.2	3196.2	3117.6
37.5°	3445.1	3412.3	3189.7	2980.1	2881.8
40°	3228.9	3189.7	2947.3	2757.4	2652.6
42.5°	3025.9	2973.5	2737.7	2534.7	2416.8
45°	2809.8	2750.8	2515.0	2305.5	2213.8
47.5°	2593.6	2541.2	2325.1	2109.0	2004.2
50°	2364.4	2318.6	2122.1	1905.9	1794.6
52.5°	2174.5	2102.4	1912.5	1696.3	1604.7
55°	1951.8	1892.8	1716.0	1513.0	1434.4
57.5°	1748.7	1689.8	1526.1	1336.1	1270.6
60°	1558.8	1473.7	1336.1	1172.4	1120.0
62.5°	1349.2	1283.7	1165.8	1028.3	1093.8
65°	1159.3	1093.8	989.0	1008.6	838.3
67.5°	949.7	916.9	825.2	733.6	707.4
70°	772.9	733.6	700.8	602.6	576.4
72.5°	615.7	576.4	530.5	478.1	458.5
75°	465.0	432.3	406.1	386.4	425.7
77.5°	320.9	307.8	288.2	268.5	262.0
80°	209.6	203.0	196.5	189.9	183.4
82.5°	124.4	124.4	124.4	124.4	124.4
85°	65.5	72.0	78.6	85.1	91.7
87.5°	39.3	39.3	45.8	52.4	58.9
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)