

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: P547016

Luminaire Tested: **FMR-24-4-LD4-3HI-40-UNV-82-85-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: P547016
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-40-UNV-82-85-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

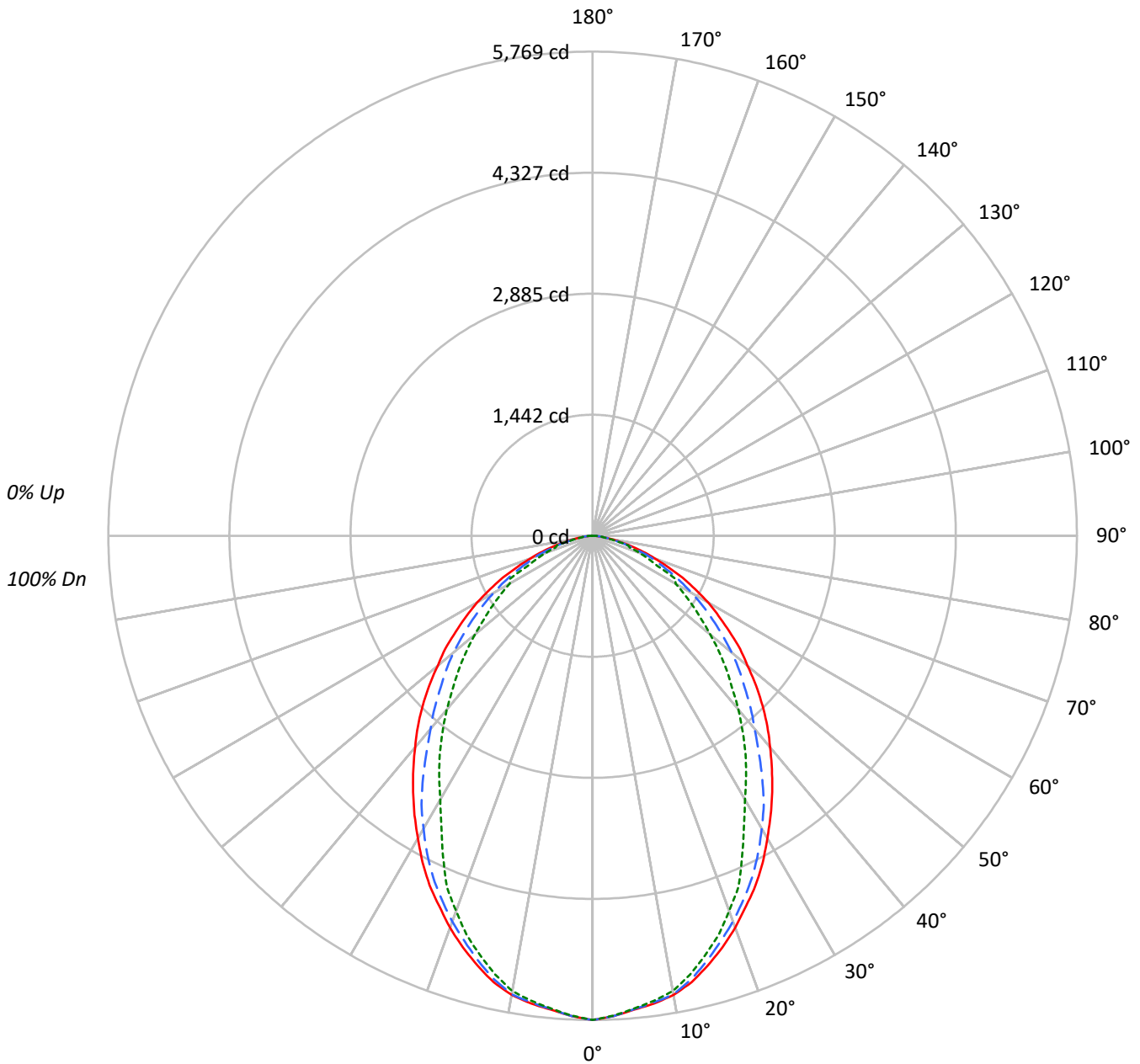
Lumens per Lamp: N/A
Luminaire Lumens: 11325.0 lumens
Efficiency: N/A
Efficacy: 87.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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				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°	7762	7762	7762
5°	7656	7647	7638
10°	7590	7581	7526
15°	7385	7311	7209
20°	7114	7000	6809
25°	6822	6673	6257
30°	6465	6258	5637
35°	6123	5784	5214
40°	5775	5271	4744
45°	5444	4873	4289
50°	5040	4523	3825
55°	4662	4099	3426
60°	4271	3661	3069
65°	3758	3206	2718
70°	3096	2807	2309
75°	2462	2150	2254
80°	1654	1550	1447
85°	1030	1235	1442



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	537.0	4.7
10°-20°	1473.7	13.0
20°-30°	2040.3	18.0
30°-40°	2175.6	19.2
40°-50°	1984.7	17.5
50°-60°	1554.9	13.7
60°-70°	1013.4	8.9
70°-80°	449.0	4.0
80°-90°	96.4	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°	4051.0	35.8
0°-40°	6226.6	55.0
0°-60°	9766.2	86.2
0°-90°	11325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11325.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5769	5769	5769	5769	5769	
5°	5669	5662	5662	5655	5655	538
15°	5302	5302	5249	5195	5175	1491
25°	4595	4568	4495	4335	4215	2110
35°	3728	3701	3521	3254	3174	2331
45°	2861	2801	2561	2348	2254	2204
55°	1987	1927	1747	1541	1460	1783
65°	1180	1114	1007	1027	854	1163
75°	474	440	414	394	434	507
85°	67	73	80	87	93	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5768.8	5768.8	5768.8	5768.8	5768.8
2.5°	5728.8	5728.8	5728.8	5722.1	5722.1
5°	5668.8	5662.1	5662.1	5655.4	5655.4
7.5°	5622.1	5615.4	5608.7	5602.1	5588.7
10°	5555.4	5555.4	5548.7	5515.4	5508.7
12.5°	5448.7	5442.0	5415.3	5368.7	5355.3
15°	5302.0	5302.0	5248.6	5195.3	5175.3
17.5°	5141.9	5135.2	5068.5	5015.2	4988.5
20°	4968.5	4955.2	4888.5	4801.8	4755.1
22.5°	4775.1	4775.1	4695.1	4581.7	4535.0
25°	4595.0	4568.4	4495.0	4334.9	4214.9
27.5°	4388.3	4348.3	4268.2	4041.5	3901.4
30°	4161.5	4141.5	4028.2	3734.7	3628.0
32.5°	3948.1	3914.8	3794.7	3488.0	3401.3
35°	3728.0	3701.4	3521.3	3254.5	3174.5
37.5°	3508.0	3474.6	3247.9	3034.5	2934.4
40°	3287.9	3247.9	3001.1	2807.7	2701.0
42.5°	3081.1	3027.8	2787.7	2581.0	2460.9
45°	2861.1	2801.0	2560.9	2347.5	2254.2
47.5°	2641.0	2587.6	2367.5	2147.5	2040.8
50°	2407.6	2360.9	2160.8	1940.7	1827.3
52.5°	2214.2	2140.8	1947.4	1727.3	1633.9
55°	1987.4	1927.4	1747.3	1540.6	1460.5
57.5°	1780.7	1720.6	1553.9	1360.5	1293.8
60°	1587.3	1500.6	1360.5	1193.8	1140.4
62.5°	1373.8	1307.2	1187.1	1047.1	1113.7
65°	1180.4	1113.7	1007.0	1027.0	853.6
67.5°	967.0	933.7	840.3	746.9	720.3
70°	787.0	746.9	713.6	613.6	586.9
72.5°	626.9	586.9	540.2	486.8	466.8
75°	473.5	440.2	413.5	393.5	433.5
77.5°	326.8	313.4	293.4	273.4	266.8
80°	213.4	206.7	200.1	193.4	186.7
82.5°	126.7	126.7	126.7	126.7	126.7
85°	66.7	73.4	80.0	86.7	93.4
87.5°	40.0	40.0	46.7	53.4	60.0
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)