

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: P545297

Luminaire Tested: **FMR-12-2-LD4-1HI-40-UNV-93-86-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: P545297
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-12-2-LD4-1HI-40-UNV-93-86-EDD
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

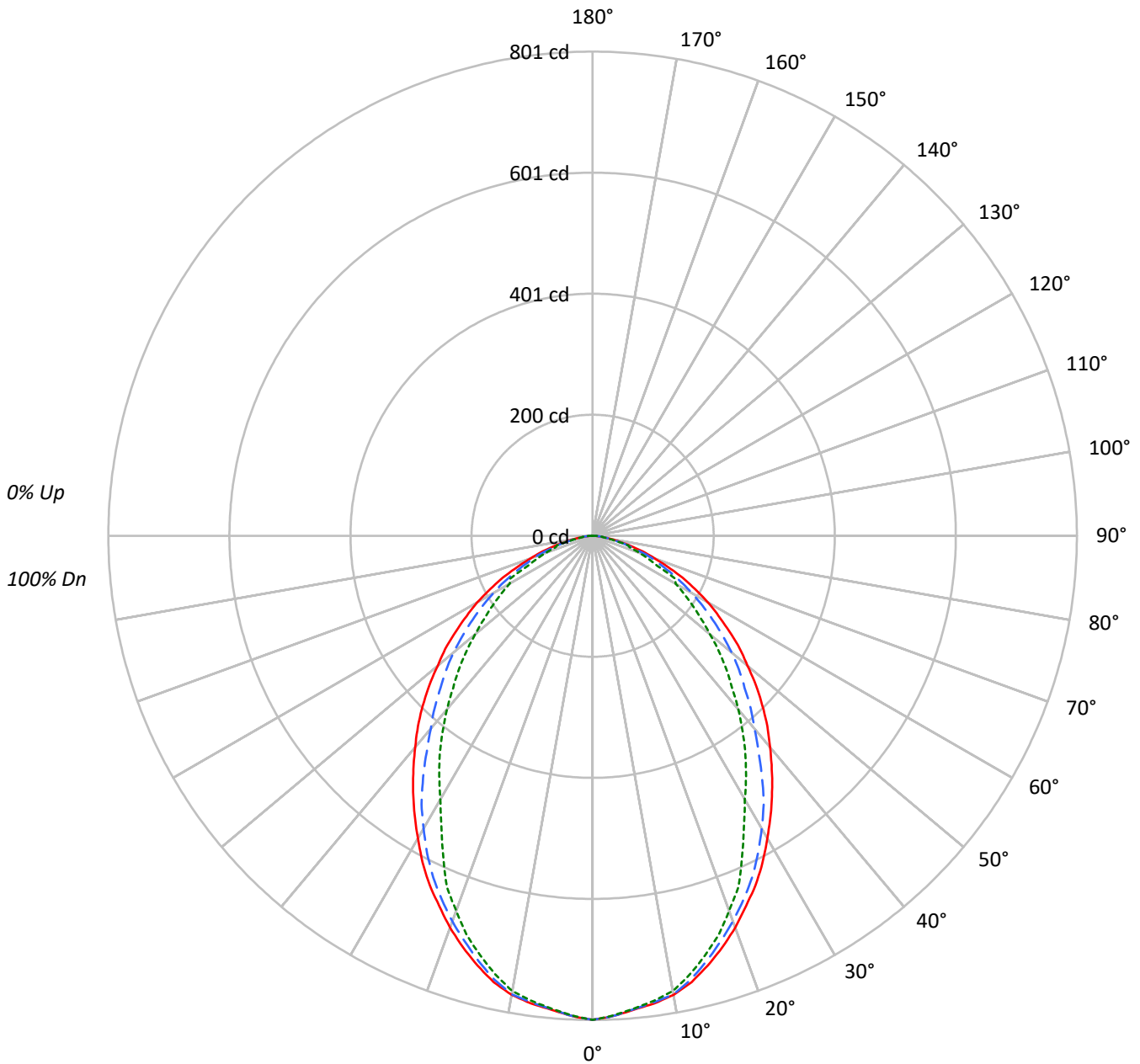
Lumens per Lamp: N/A
Luminaire Lumens: 1572.0 lumens
Efficiency: N/A
Efficacy: 72.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 21.6
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					
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°	4310	4310	4310
5°	4251	4246	4241
10°	4214	4209	4179
15°	4101	4059	4003
20°	3950	3887	3780
25°	3787	3705	3475
30°	3590	3475	3130
35°	3400	3211	2895
40°	3207	2927	2634
45°	3022	2706	2382
50°	2798	2511	2123
55°	2589	2275	1902
60°	2371	2032	1704
65°	2087	1780	1509
70°	1718	1559	1282
75°	1366	1194	1252
80°	917	862	803
85°	574	685	803



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.5	4.7
10°-20°	204.6	13.0
20°-30°	283.2	18.0
30°-40°	302.0	19.2
40°-50°	275.5	17.5
50°-60°	215.8	13.7
60°-70°	140.7	8.9
70°-80°	62.3	4.0
80°-90°	13.4	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°	562.3	35.8
0°-40°	864.3	55.0
0°-60°	1355.6	86.2
0°-90°	1572.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1572.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	801	801	801	801	801	
5°	787	786	786	785	785	75
15°	736	736	728	721	718	207
25°	638	634	624	602	585	293
35°	518	514	489	452	441	324
45°	397	389	356	326	313	306
55°	276	268	242	214	203	247
65°	164	155	140	143	118	161
75°	66	61	57	55	60	70
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	800.8	800.8	800.8	800.8	800.8
2.5°	795.2	795.2	795.2	794.3	794.3
5°	786.9	785.9	785.9	785.0	785.0
7.5°	780.4	779.5	778.5	777.6	775.8
10°	771.1	771.1	770.2	765.6	764.7
12.5°	756.3	755.4	751.7	745.2	743.4
15°	736.0	736.0	728.5	721.1	718.4
17.5°	713.7	712.8	703.6	696.1	692.4
20°	689.7	687.8	678.6	666.5	660.0
22.5°	662.8	662.8	651.7	636.0	629.5
25°	637.8	634.1	623.9	601.7	585.1
27.5°	609.1	603.6	592.5	561.0	541.6
30°	577.7	574.9	559.1	518.4	503.6
32.5°	548.0	543.4	526.7	484.2	472.1
35°	517.5	513.8	488.8	451.8	440.6
37.5°	486.9	482.3	450.8	421.2	407.3
40°	456.4	450.8	416.6	389.7	374.9
42.5°	427.7	420.3	387.0	358.3	341.6
45°	397.1	388.8	355.5	325.9	312.9
47.5°	366.6	359.2	328.6	298.1	283.3
50°	334.2	327.7	299.9	269.4	253.6
52.5°	307.3	297.2	270.3	239.8	226.8
55°	275.9	267.5	242.5	213.8	202.7
57.5°	247.2	238.8	215.7	188.8	179.6
60°	220.3	208.3	188.8	165.7	158.3
62.5°	190.7	181.4	164.8	145.3	154.6
65°	163.9	154.6	139.8	142.6	118.5
67.5°	134.2	129.6	116.6	103.7	100.0
70°	109.2	103.7	99.1	85.2	81.5
72.5°	87.0	81.5	75.0	67.6	64.8
75°	65.7	61.1	57.4	54.6	60.2
77.5°	45.4	43.5	40.7	38.0	37.0
80°	29.6	28.7	27.8	26.8	25.9
82.5°	17.6	17.6	17.6	17.6	17.6
85°	9.3	10.2	11.1	12.0	13.0
87.5°	5.6	5.6	6.5	7.4	8.3
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)