

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: P546035

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-93-88-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: P546035
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-12-4-LD4-1STD-35-UNV-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

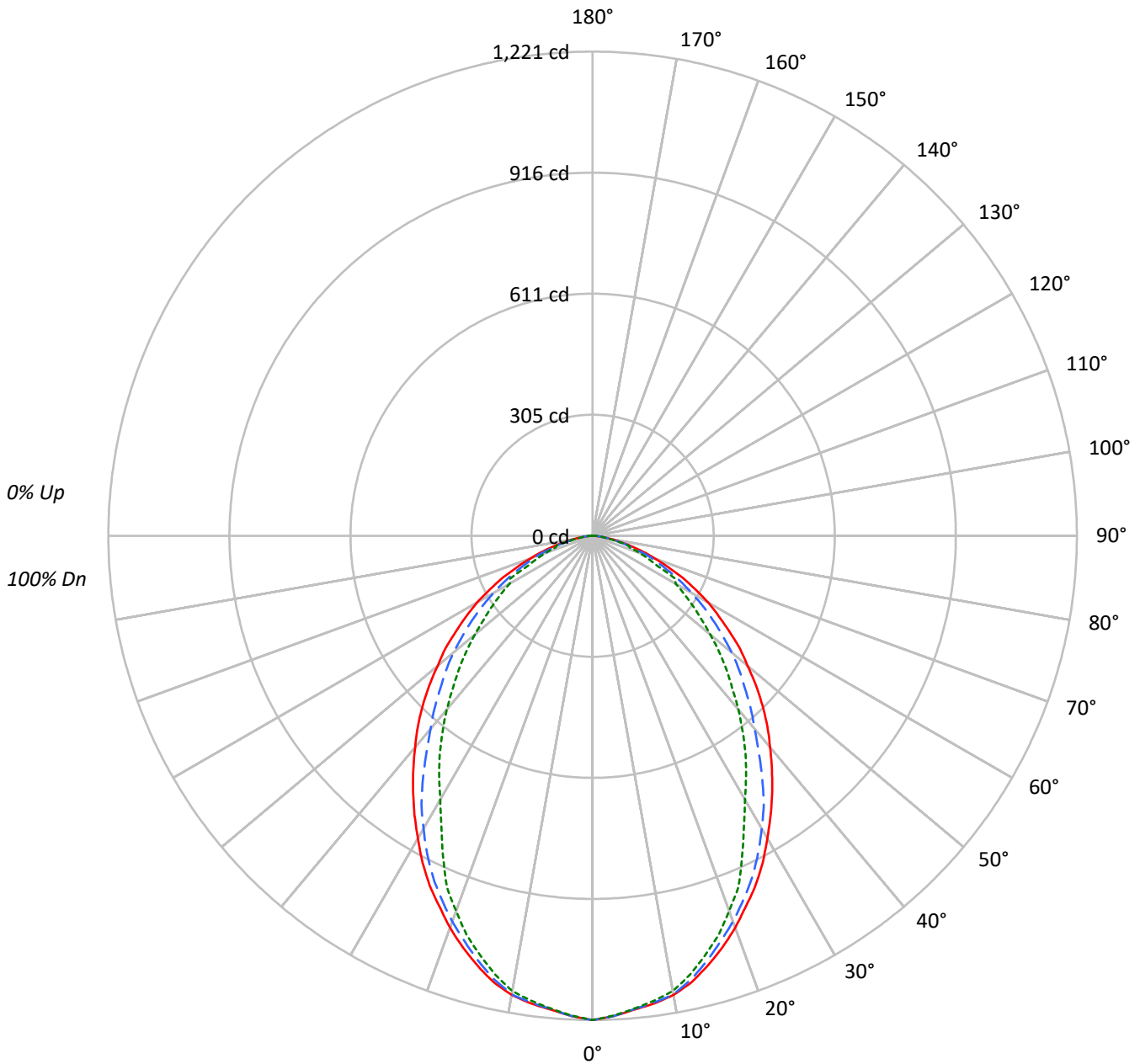
Lumens per Lamp: N/A
Luminaire Lumens: 2397.0 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3286	3286	3286
5°	3241	3237	3233
10°	3213	3209	3186
15°	3126	3095	3052
20°	3011	2963	2882
25°	2888	2825	2649
30°	2737	2649	2386
35°	2592	2448	2207
40°	2445	2231	2008
45°	2305	2063	1816
50°	2133	1914	1619
55°	1973	1735	1450
60°	1808	1550	1299
65°	1591	1357	1151
70°	1311	1188	977
75°	1042	910	954
80°	700	656	612
85°	435	522	611



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.7	4.7
10°-20°	311.9	13.0
20°-30°	431.8	18.0
30°-40°	460.5	19.2
40°-50°	420.1	17.5
50°-60°	329.1	13.7
60°-70°	214.5	8.9
70°-80°	95.0	4.0
80°-90°	20.4	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°	857.4	35.8
0°-40°	1317.9	55.0
0°-60°	2067.1	86.2
0°-90°	2397.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2397.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1221	1221	1221	1221	1221	
5°	1200	1198	1198	1197	1197	114
15°	1122	1122	1111	1100	1095	315
25°	973	967	951	918	892	447
35°	789	783	745	689	672	493
45°	606	593	542	497	477	466
55°	421	408	370	326	309	377
65°	250	236	213	217	181	246
75°	100	93	88	83	92	107
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1221.0	1221.0	1221.0	1221.0	1221.0
2.5°	1212.5	1212.5	1212.5	1211.1	1211.1
5°	1199.8	1198.4	1198.4	1197.0	1197.0
7.5°	1189.9	1188.5	1187.1	1185.7	1182.9
10°	1175.8	1175.8	1174.4	1167.4	1165.9
12.5°	1153.2	1151.8	1146.2	1136.3	1133.5
15°	1122.2	1122.2	1110.9	1099.6	1095.4
17.5°	1088.3	1086.9	1072.8	1061.5	1055.8
20°	1051.6	1048.8	1034.7	1016.3	1006.4
22.5°	1010.7	1010.7	993.7	969.7	959.9
25°	972.6	966.9	951.4	917.5	892.1
27.5°	928.8	920.3	903.4	855.4	825.8
30°	880.8	876.6	852.6	790.5	767.9
32.5°	835.6	828.6	803.2	738.2	719.9
35°	789.1	783.4	745.3	688.8	671.9
37.5°	742.5	735.4	687.4	642.3	621.1
40°	695.9	687.4	635.2	594.3	571.7
42.5°	652.1	640.8	590.0	546.3	520.9
45°	605.6	592.9	542.0	496.9	477.1
47.5°	559.0	547.7	501.1	454.5	431.9
50°	509.6	499.7	457.3	410.8	386.8
52.5°	468.6	453.1	412.2	365.6	345.8
55°	420.6	407.9	369.8	326.1	309.1
57.5°	376.9	364.2	328.9	288.0	273.8
60°	336.0	317.6	288.0	252.7	241.4
62.5°	290.8	276.7	251.3	221.6	235.7
65°	249.8	235.7	213.1	217.4	180.7
67.5°	204.7	197.6	177.9	158.1	152.4
70°	166.6	158.1	151.0	129.9	124.2
72.5°	132.7	124.2	114.3	103.0	98.8
75°	100.2	93.2	87.5	83.3	91.8
77.5°	69.2	66.3	62.1	57.9	56.5
80°	45.2	43.8	42.3	40.9	39.5
82.5°	26.8	26.8	26.8	26.8	26.8
85°	14.1	15.5	16.9	18.4	19.8
87.5°	8.5	8.5	9.9	11.3	12.7
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)