

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: P546307

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-81-88-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: P546307
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-LD4-2STD-35-UNV-81-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC 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

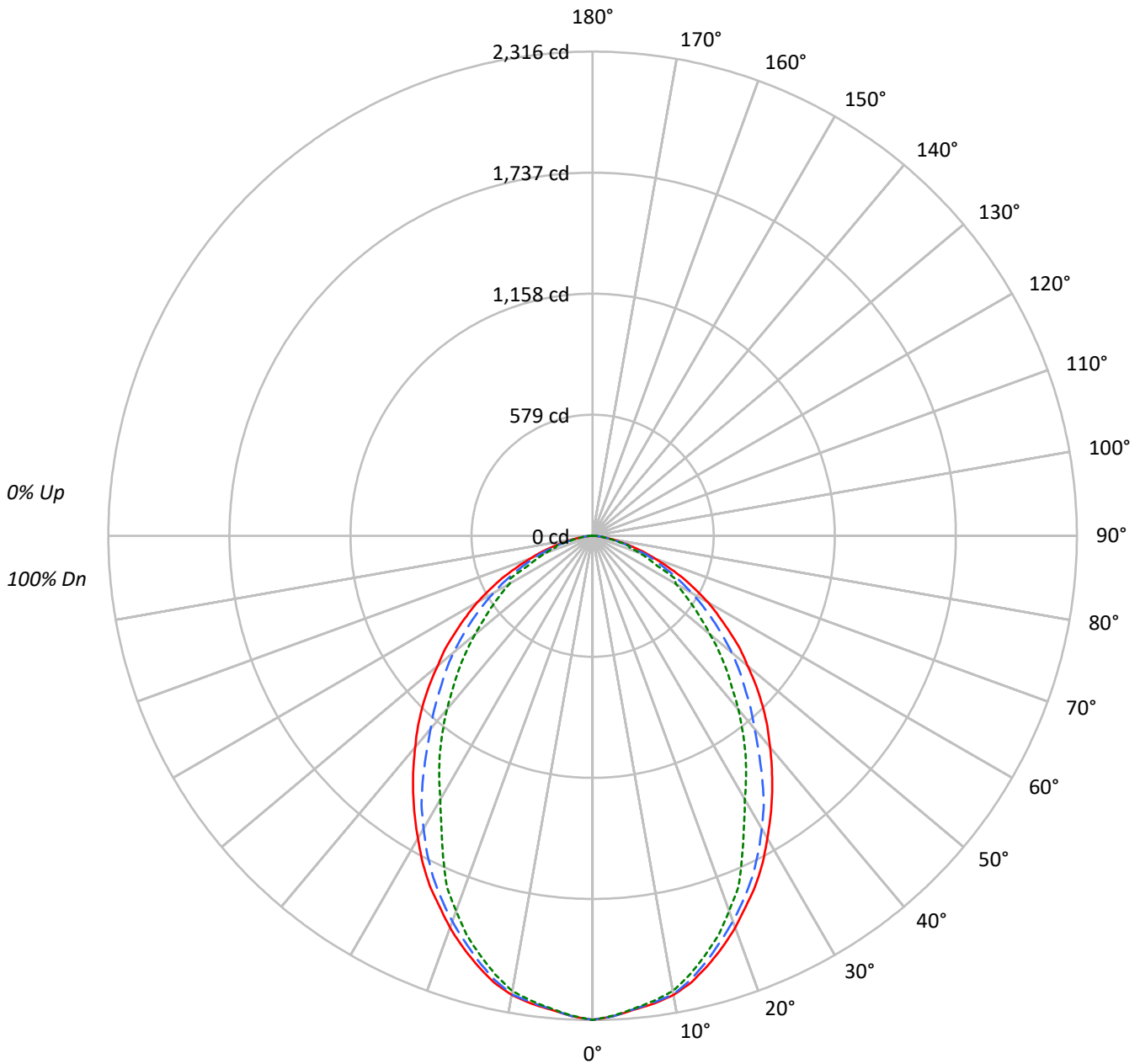
Lumens per Lamp: N/A
Luminaire Lumens: 4546.0 lumens
Efficiency: N/A
Efficacy: 68.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	6231	6231	6231
5°	6147	6139	6132
10°	6093	6086	6042
15°	5929	5870	5787
20°	5711	5619	5466
25°	5477	5357	5024
30°	5191	5024	4525
35°	4916	4643	4186
40°	4636	4232	3809
45°	4371	3912	3444
50°	4046	3631	3071
55°	3743	3291	2751
60°	3429	2939	2464
65°	3017	2574	2182
70°	2485	2253	1854
75°	1976	1726	1809
80°	1328	1244	1162
85°	827	991	1158



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.6	4.7
10°-20°	591.6	13.0
20°-30°	819.0	18.0
30°-40°	873.3	19.2
40°-50°	796.7	17.5
50°-60°	624.2	13.7
60°-70°	406.8	8.9
70°-80°	180.2	4.0
80°-90°	38.7	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°	1626.1	35.8
0°-40°	2499.4	55.0
0°-60°	3920.3	86.2
0°-90°	4546.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4546.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2316	2316	2316	2316	2316	
5°	2276	2273	2273	2270	2270	216
15°	2128	2128	2107	2085	2077	598
25°	1844	1834	1804	1740	1692	847
35°	1496	1486	1414	1306	1274	936
45°	1148	1124	1028	942	905	885
55°	798	774	701	618	586	716
65°	474	447	404	412	343	467
75°	190	177	166	158	174	204
85°	27	29	32	35	38	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2315.7	2315.7	2315.7	2315.7	2315.7
2.5°	2299.6	2299.6	2299.6	2296.9	2296.9
5°	2275.5	2272.8	2272.8	2270.2	2270.2
7.5°	2256.8	2254.1	2251.4	2248.7	2243.4
10°	2230.0	2230.0	2227.3	2213.9	2211.3
12.5°	2187.2	2184.5	2173.8	2155.0	2149.7
15°	2128.3	2128.3	2106.9	2085.4	2077.4
17.5°	2064.0	2061.3	2034.6	2013.2	2002.5
20°	1994.4	1989.1	1962.3	1927.5	1908.8
22.5°	1916.8	1916.8	1884.7	1839.2	1820.4
25°	1844.5	1833.8	1804.3	1740.1	1691.9
27.5°	1761.5	1745.5	1713.3	1622.3	1566.1
30°	1670.5	1662.5	1617.0	1499.2	1456.3
32.5°	1584.8	1571.4	1523.3	1400.1	1365.3
35°	1496.5	1485.8	1413.5	1306.4	1274.3
37.5°	1408.1	1394.8	1303.7	1218.1	1177.9
40°	1319.8	1303.7	1204.7	1127.0	1084.2
42.5°	1236.8	1215.4	1119.0	1036.0	987.8
45°	1148.5	1124.4	1028.0	942.3	904.9
47.5°	1060.1	1038.7	950.4	862.0	819.2
50°	966.4	947.7	867.4	779.0	733.5
52.5°	888.8	859.3	781.7	693.4	655.9
55°	797.8	773.7	701.4	618.4	586.3
57.5°	714.8	690.7	623.8	546.1	519.4
60°	637.1	602.3	546.1	479.2	457.8
62.5°	551.5	524.7	476.5	420.3	447.1
65°	473.8	447.1	404.2	412.3	342.7
67.5°	388.2	374.8	337.3	299.8	289.1
70°	315.9	299.8	286.4	246.3	235.6
72.5°	251.6	235.6	216.8	195.4	187.4
75°	190.1	176.7	166.0	157.9	174.0
77.5°	131.2	125.8	117.8	109.8	107.1
80°	85.7	83.0	80.3	77.6	75.0
82.5°	50.9	50.9	50.9	50.9	50.9
85°	26.8	29.4	32.1	34.8	37.5
87.5°	16.1	16.1	18.7	21.4	24.1
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)