

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: P546597

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-81-96-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: P546597
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-LD4-1STD-35-UNV-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

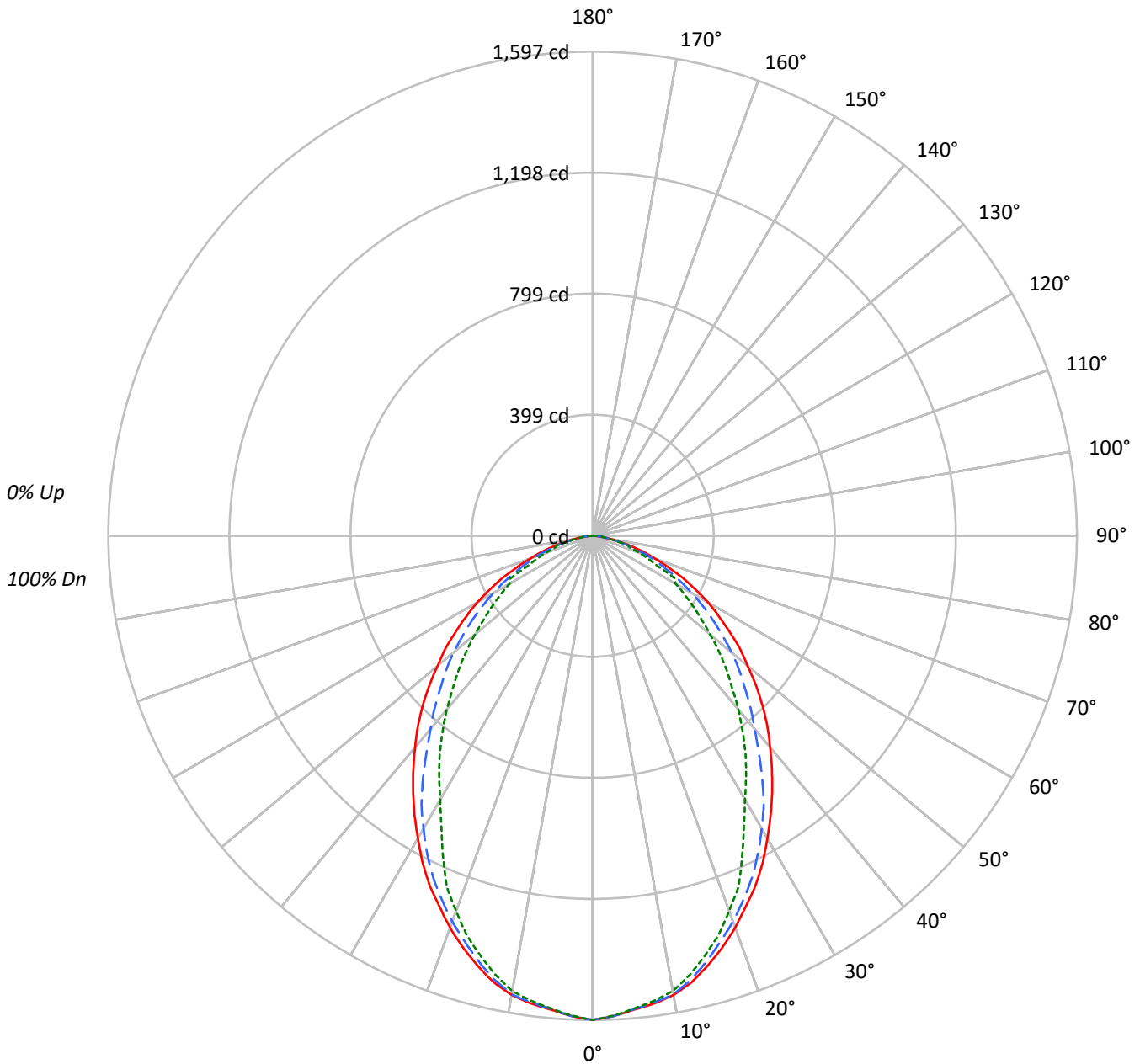
Lumens per Lamp: N/A
Luminaire Lumens: 3135.0 lumens
Efficiency: N/A
Efficacy: 94.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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									
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°	2149	2149	2149
5°	2119	2117	2114
10°	2101	2099	2083
15°	2044	2024	1996
20°	1969	1938	1885
25°	1888	1847	1732
30°	1790	1732	1560
35°	1695	1601	1443
40°	1599	1459	1313
45°	1507	1349	1187
50°	1395	1252	1059
55°	1291	1135	948
60°	1182	1013	850
65°	1040	888	752
70°	857	777	639
75°	682	595	624
80°	458	429	401
85°	286	343	398



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.7	4.7
10°-20°	408.0	13.0
20°-30°	564.8	18.0
30°-40°	602.2	19.2
40°-50°	549.4	17.5
50°-60°	430.4	13.7
60°-70°	280.5	8.9
70°-80°	124.3	4.0
80°-90°	26.7	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°	1121.4	35.8
0°-40°	1723.7	55.0
0°-60°	2703.5	86.2
0°-90°	3135.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3135.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1597	1597	1597	1597	1597	
5°	1569	1567	1567	1566	1566	149
15°	1468	1468	1453	1438	1433	413
25°	1272	1265	1244	1200	1167	584
35°	1032	1025	975	901	879	645
45°	792	775	709	650	624	610
55°	550	534	484	426	404	493
65°	327	308	279	284	236	322
75°	131	122	114	109	120	140
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1596.9	1596.9	1596.9	1596.9	1596.9
2.5°	1585.9	1585.9	1585.9	1584.0	1584.0
5°	1569.2	1567.4	1567.4	1565.5	1565.5
7.5°	1556.3	1554.5	1552.6	1550.8	1547.1
10°	1537.9	1537.9	1536.0	1526.8	1524.9
12.5°	1508.3	1506.5	1499.1	1486.2	1482.5
15°	1467.7	1467.7	1452.9	1438.2	1432.6
17.5°	1423.4	1421.5	1403.1	1388.3	1380.9
20°	1375.4	1371.7	1353.2	1329.2	1316.3
22.5°	1321.8	1321.8	1299.7	1268.3	1255.4
25°	1272.0	1264.6	1244.3	1200.0	1166.8
27.5°	1214.8	1203.7	1181.5	1118.8	1080.0
30°	1152.0	1146.5	1115.1	1033.8	1004.3
32.5°	1092.9	1083.7	1050.5	965.5	941.5
35°	1032.0	1024.6	974.8	900.9	878.8
37.5°	971.1	961.8	899.1	840.0	812.3
40°	910.2	899.1	830.8	777.2	747.7
42.5°	852.9	838.2	771.7	714.5	681.2
45°	792.0	775.4	708.9	649.8	624.0
47.5°	731.1	716.3	655.4	594.5	564.9
50°	666.5	653.5	598.2	537.2	505.8
52.5°	612.9	592.6	539.1	478.2	452.3
55°	550.2	533.5	483.7	426.5	404.3
57.5°	492.9	476.3	430.2	376.6	358.2
60°	439.4	415.4	376.6	330.5	315.7
62.5°	380.3	361.8	328.6	289.8	308.3
65°	326.8	308.3	278.8	284.3	236.3
67.5°	267.7	258.5	232.6	206.8	199.4
70°	217.8	206.8	197.5	169.8	162.5
72.5°	173.5	162.5	149.5	134.8	129.2
75°	131.1	121.8	114.5	108.9	120.0
77.5°	90.5	86.8	81.2	75.7	73.8
80°	59.1	57.2	55.4	53.5	51.7
82.5°	35.1	35.1	35.1	35.1	35.1
85°	18.5	20.3	22.2	24.0	25.8
87.5°	11.1	11.1	12.9	14.8	16.6
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)