

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: P545841

Luminaire Tested: **FMR-12-4-LD4-1HI-35-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: P545841
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-LD4-1HI-35-UNV-93-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

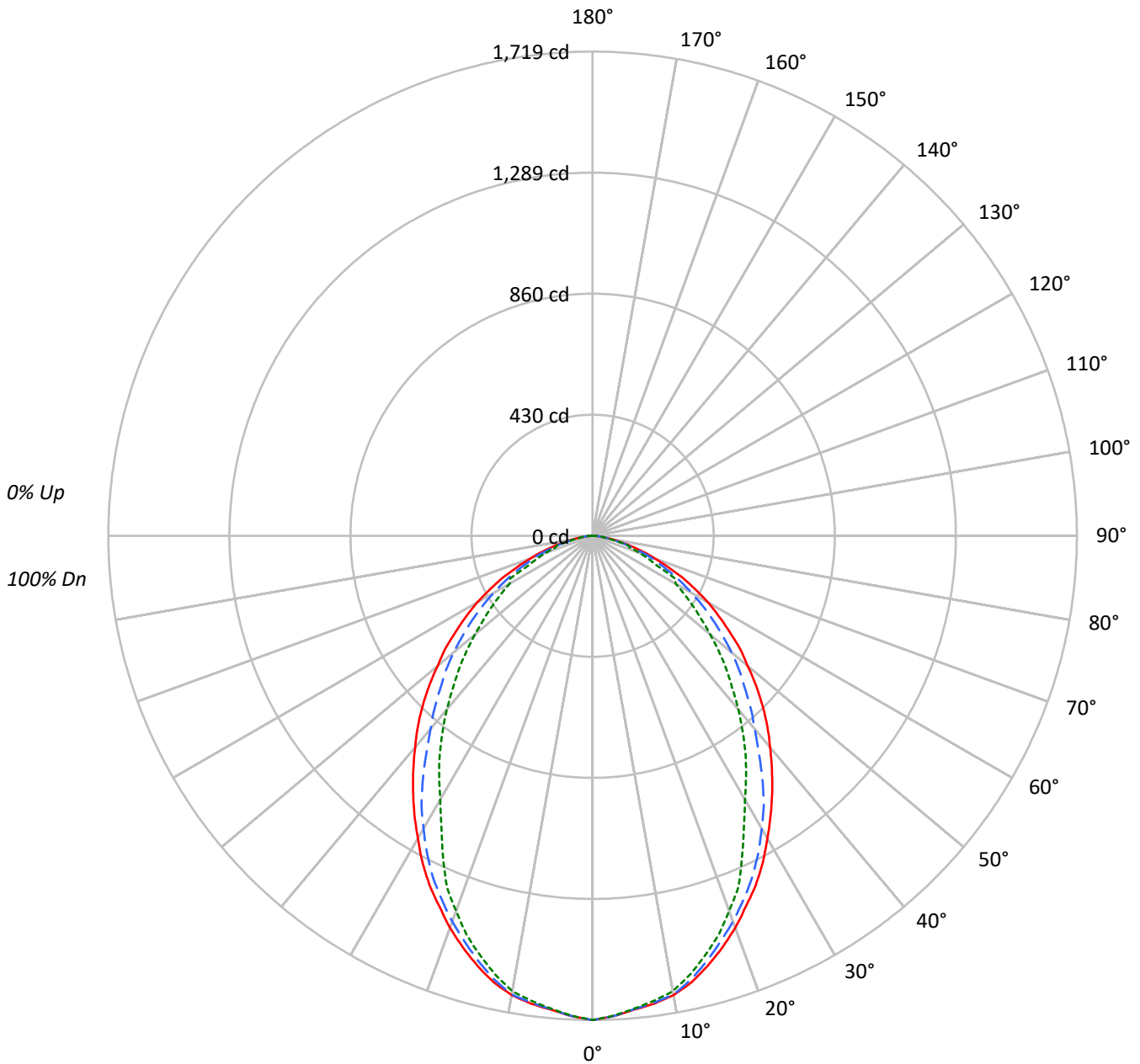
Lumens per Lamp: N/A
Luminaire Lumens: 3375.0 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	4626	4626	4626
5°	4564	4558	4553
10°	4524	4518	4486
15°	4402	4358	4297
20°	4240	4172	4058
25°	4066	3977	3730
30°	3854	3730	3360
35°	3650	3447	3108
40°	3442	3142	2827
45°	3245	2904	2557
50°	3004	2696	2280
55°	2779	2443	2042
60°	2546	2182	1829
65°	2240	1911	1620
70°	1845	1674	1376
75°	1467	1281	1343
80°	986	924	862
85°	614	735	858



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.0	4.7
10°-20°	439.2	13.0
20°-30°	608.0	18.0
30°-40°	648.3	19.2
40°-50°	591.5	17.5
50°-60°	463.4	13.7
60°-70°	302.0	8.9
70°-80°	133.8	4.0
80°-90°	28.7	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°	1207.3	35.8
0°-40°	1855.6	55.0
0°-60°	2910.5	86.2
0°-90°	3375.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3375.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1719	1719	1719	1719	1719	
5°	1689	1687	1687	1685	1685	160
15°	1580	1580	1564	1548	1542	444
25°	1369	1361	1340	1292	1256	629
35°	1111	1103	1049	970	946	695
45°	853	835	763	700	672	657
55°	592	574	521	459	435	531
65°	352	332	300	306	254	347
75°	141	131	123	117	129	151
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1719.2	1719.2	1719.2	1719.2	1719.2
2.5°	1707.3	1707.3	1707.3	1705.3	1705.3
5°	1689.4	1687.4	1687.4	1685.4	1685.4
7.5°	1675.5	1673.5	1671.5	1669.5	1665.5
10°	1655.6	1655.6	1653.6	1643.7	1641.7
12.5°	1623.8	1621.8	1613.8	1599.9	1596.0
15°	1580.1	1580.1	1564.2	1548.3	1542.3
17.5°	1532.4	1530.4	1510.5	1494.6	1486.6
20°	1480.7	1476.7	1456.8	1431.0	1417.1
22.5°	1423.0	1423.0	1399.2	1365.4	1351.5
25°	1369.4	1361.4	1339.6	1291.9	1256.1
27.5°	1307.8	1295.8	1272.0	1204.4	1162.7
30°	1240.2	1234.2	1200.4	1113.0	1081.2
32.5°	1176.6	1166.7	1130.9	1039.5	1013.6
35°	1111.0	1103.1	1049.4	969.9	946.0
37.5°	1045.4	1035.5	967.9	904.3	874.5
40°	979.8	967.9	894.4	836.7	804.9
42.5°	918.2	902.3	830.8	769.2	733.4
45°	852.6	834.7	763.2	699.6	671.8
47.5°	787.0	771.1	705.6	640.0	608.2
50°	717.5	703.6	643.9	578.4	544.6
52.5°	659.8	638.0	580.3	514.8	486.9
55°	592.3	574.4	520.7	459.1	435.3
57.5°	530.7	512.8	463.1	405.4	385.6
60°	473.0	447.2	405.4	355.8	339.9
62.5°	409.4	389.5	353.8	312.0	331.9
65°	351.8	331.9	300.1	306.1	254.4
67.5°	288.2	278.2	250.4	222.6	214.6
70°	234.5	222.6	212.7	182.8	174.9
72.5°	186.8	174.9	161.0	145.1	139.1
75°	141.1	131.2	123.2	117.3	129.2
77.5°	97.4	93.4	87.4	81.5	79.5
80°	63.6	61.6	59.6	57.6	55.6
82.5°	37.8	37.8	37.8	37.8	37.8
85°	19.9	21.9	23.8	25.8	27.8
87.5°	11.9	11.9	13.9	15.9	17.9
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)