

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: P547372

Luminaire Tested: **FMR-24-4-LD4-4LO-35-UNV-82-94-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: P547372
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-LD4-4LO-35-UNV-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

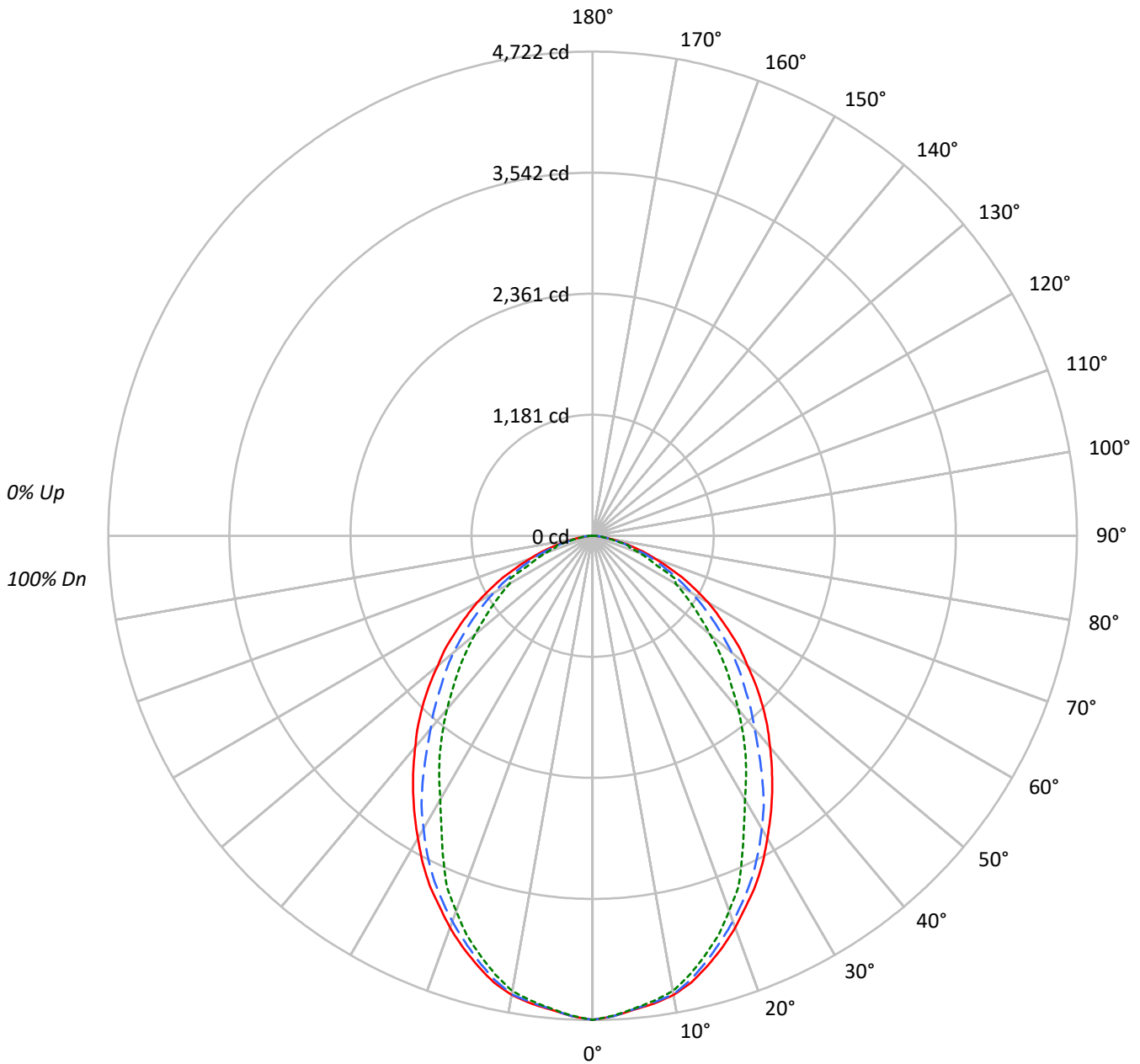
Lumens per Lamp: N/A
Luminaire Lumens: 9269.0 lumens
Efficiency: N/A
Efficacy: 99.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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

TEST NUMBER: P547372

CATALOG NUMBER: FMR-24-4-LD4-4LO-35-UNV-82-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P547372

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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°	6353	6353	6353
5°	6266	6259	6252
10°	6212	6205	6160
15°	6045	5984	5900
20°	5823	5729	5572
25°	5583	5462	5121
30°	5292	5122	4613
35°	5012	4734	4268
40°	4727	4314	3883
45°	4456	3988	3510
50°	4125	3702	3131
55°	3816	3355	2804
60°	3496	2996	2512
65°	3076	2624	2224
70°	2534	2297	1889
75°	2014	1759	1844
80°	1354	1269	1184
85°	843	1011	1179



TEST NUMBER: P547372

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	439.5	4.7
10°-20°	1206.2	13.0
20°-30°	1669.9	18.0
30°-40°	1780.6	19.2
40°-50°	1624.4	17.5
50°-60°	1272.6	13.7
60°-70°	829.4	8.9
70°-80°	367.5	4.0
80°-90°	78.9	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°	3315.6	35.8
0°-40°	5096.2	55.0
0°-60°	7993.2	86.2
0°-90°	9269.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9269.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4722	4722	4722	4722	4722	
5°	4640	4634	4634	4629	4629	440
15°	4339	4339	4296	4252	4236	1220
25°	3761	3739	3679	3548	3450	1727
35°	3051	3029	2882	2664	2598	1908
45°	2342	2292	2096	1921	1845	1804
55°	1627	1578	1430	1261	1195	1459
65°	966	912	824	841	699	952
75°	388	360	338	322	355	415
85°	55	60	66	71	76	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4721.5	4721.5	4721.5	4721.5	4721.5
2.5°	4688.8	4688.8	4688.8	4683.3	4683.3
5°	4639.6	4634.2	4634.2	4628.7	4628.7
7.5°	4601.4	4596.0	4590.5	4585.0	4574.1
10°	4546.8	4546.8	4541.4	4514.1	4508.6
12.5°	4459.5	4454.0	4432.2	4394.0	4383.1
15°	4339.4	4339.4	4295.8	4252.1	4235.7
17.5°	4208.4	4203.0	4148.4	4104.7	4082.9
20°	4066.5	4055.6	4001.0	3930.0	3891.8
22.5°	3908.2	3908.2	3842.7	3749.9	3711.7
25°	3760.8	3739.0	3679.0	3548.0	3449.7
27.5°	3591.6	3558.9	3493.4	3307.8	3193.2
30°	3406.0	3389.7	3296.9	3056.7	2969.4
32.5°	3231.4	3204.1	3105.8	2854.7	2783.8
35°	3051.2	3029.4	2882.0	2663.7	2598.2
37.5°	2871.1	2843.8	2658.2	2483.6	2401.7
40°	2691.0	2658.2	2456.3	2298.0	2210.6
42.5°	2521.8	2478.1	2281.6	2112.4	2014.1
45°	2341.6	2292.5	2096.0	1921.4	1844.9
47.5°	2161.5	2117.9	1937.7	1757.6	1670.3
50°	1970.5	1932.3	1768.5	1588.4	1495.6
52.5°	1812.2	1752.1	1593.8	1413.7	1337.3
55°	1626.6	1577.5	1430.1	1260.9	1195.4
57.5°	1457.4	1408.3	1271.8	1113.5	1058.9
60°	1299.1	1228.1	1113.5	977.1	933.4
62.5°	1124.4	1069.8	971.6	857.0	911.6
65°	966.1	911.6	824.2	840.6	698.7
67.5°	791.5	764.2	687.8	611.3	589.5
70°	644.1	611.3	584.0	502.2	480.3
72.5°	513.1	480.3	442.1	398.5	382.1
75°	387.5	360.3	338.4	322.0	354.8
77.5°	267.5	256.5	240.2	223.8	218.3
80°	174.7	169.2	163.8	158.3	152.8
82.5°	103.7	103.7	103.7	103.7	103.7
85°	54.6	60.0	65.5	71.0	76.4
87.5°	32.8	32.8	38.2	43.7	49.1
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)