

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P560884

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-80-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560884
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1HI-50-UNV-80-86-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3528.0 lumens
Efficiency: N/A
Efficacy: 81.7 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

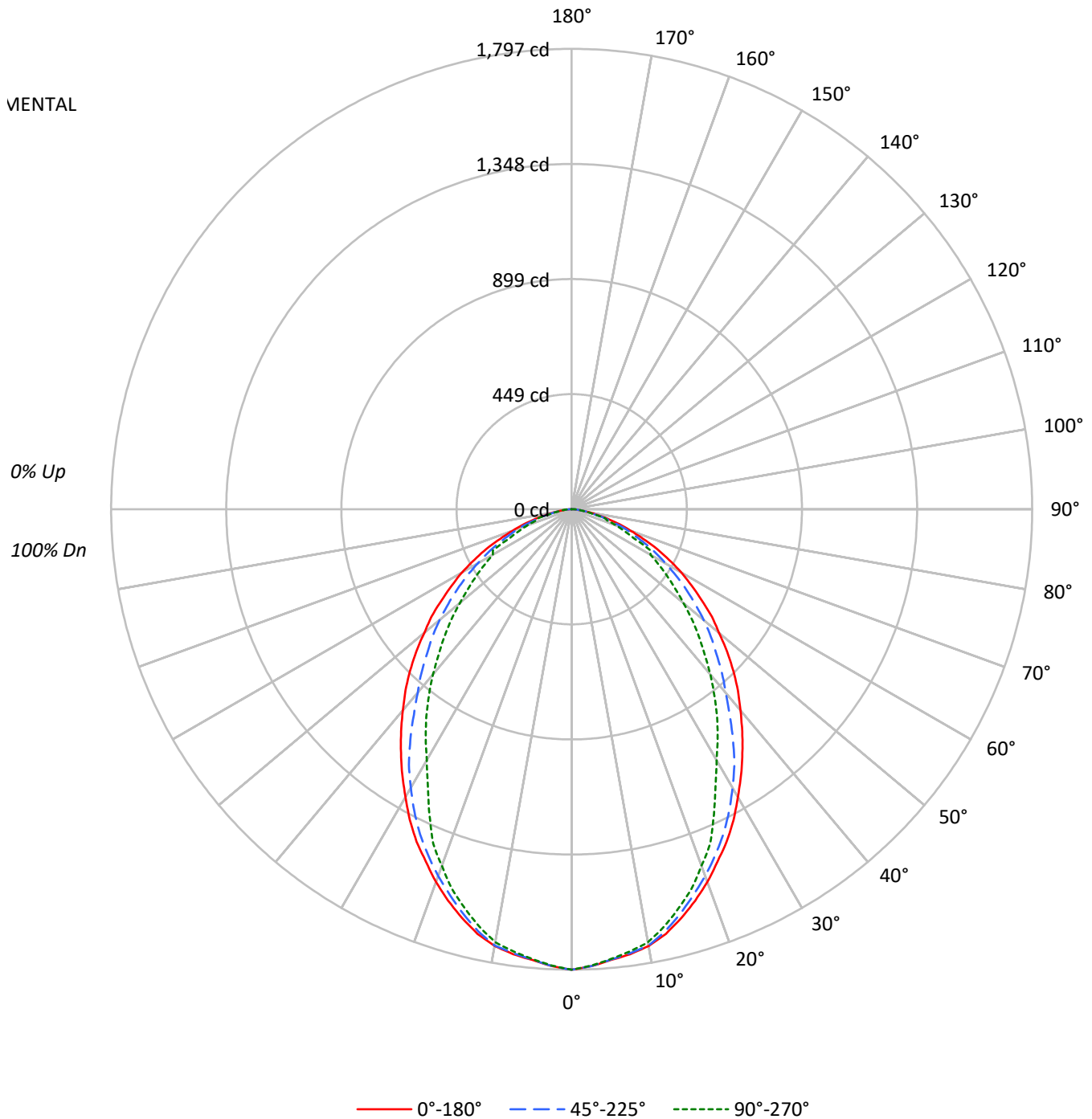
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									20									
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	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°	4836	4836	4836
5°	4770	4765	4759
10°	4729	4723	4689
15°	4601	4555	4491
20°	4432	4361	4242
25°	4250	4158	3899
30°	4028	3899	3512
35°	3815	3604	3249
40°	3598	3284	2956
45°	3392	3036	2672
50°	3140	2818	2383
55°	2905	2554	2135
60°	2661	2281	1912
65°	2341	1997	1693
70°	1929	1749	1438
75°	1534	1339	1404
80°	1031	965	902
85°	642	769	898

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3392 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.3	4.7
10°-20°	459.1	13.0
20°-30°	635.6	18.0
30°-40°	677.7	19.2
40°-50°	618.3	17.5
50°-60°	484.4	13.7
60°-70°	315.7	8.9
70°-80°	139.9	4.0
80°-90°	30.0	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°	1262.0	35.8
0°-40°	1939.7	55.0
0°-60°	3042.4	86.2
0°-90°	3528.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3528.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1797	1797	1797	1797	1797	
5°	1766	1764	1764	1762	1762	168
15°	1652	1652	1635	1618	1612	464
25°	1432	1423	1400	1350	1313	657
35°	1161	1153	1097	1014	989	726
45°	891	873	798	731	702	687
55°	619	600	544	480	455	555
65°	368	347	314	320	266	362
75°	148	137	129	123	135	158
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1797.1	1797.1	1797.1	1797.1	1797.1
2.5°	1784.7	1784.7	1784.7	1782.6	1782.6
5°	1766.0	1763.9	1763.9	1761.8	1761.8
7.5°	1751.4	1749.3	1747.3	1745.2	1741.0
10°	1730.6	1730.6	1728.6	1718.2	1716.1
12.5°	1697.4	1695.3	1687.0	1672.5	1668.3
15°	1651.7	1651.7	1635.1	1618.4	1612.2
17.5°	1601.8	1599.7	1579.0	1562.3	1554.0
20°	1547.8	1543.6	1522.9	1495.9	1481.3
22.5°	1487.6	1487.6	1462.6	1427.3	1412.8
25°	1431.5	1423.1	1400.3	1350.4	1313.0
27.5°	1367.1	1354.6	1329.7	1259.0	1215.4
30°	1296.4	1290.2	1254.9	1163.5	1130.2
32.5°	1229.9	1219.5	1182.1	1086.6	1059.6
35°	1161.4	1153.1	1097.0	1013.9	988.9
37.5°	1092.8	1082.4	1011.8	945.3	914.1
40°	1024.3	1011.8	934.9	874.7	841.4
42.5°	959.8	943.2	868.4	804.0	766.6
45°	891.3	872.6	797.8	731.3	702.2
47.5°	822.7	806.1	737.5	669.0	635.7
50°	750.0	735.5	673.1	604.6	569.3
52.5°	689.8	666.9	606.7	538.1	509.0
55°	619.1	600.4	544.3	479.9	455.0
57.5°	554.7	536.0	484.1	423.8	403.1
60°	494.5	467.5	423.8	371.9	355.3
62.5°	428.0	407.2	369.8	326.2	347.0
65°	367.7	347.0	313.7	319.9	265.9
67.5°	301.3	290.9	261.8	232.7	224.4
70°	245.2	232.7	222.3	191.1	182.8
72.5°	195.3	182.8	168.3	151.7	145.4
75°	147.5	137.1	128.8	122.6	135.0
77.5°	101.8	97.6	91.4	85.2	83.1
80°	66.5	64.4	62.3	60.3	58.2
82.5°	39.5	39.5	39.5	39.5	39.5
85°	20.8	22.9	24.9	27.0	29.1
87.5°	12.5	12.5	14.5	16.6	18.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)