

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: P564186

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564186
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-24-4-LD4-4STD-50-UNV-82-94-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13002.0 lumens
Efficiency: N/A
Efficacy: 97.6 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

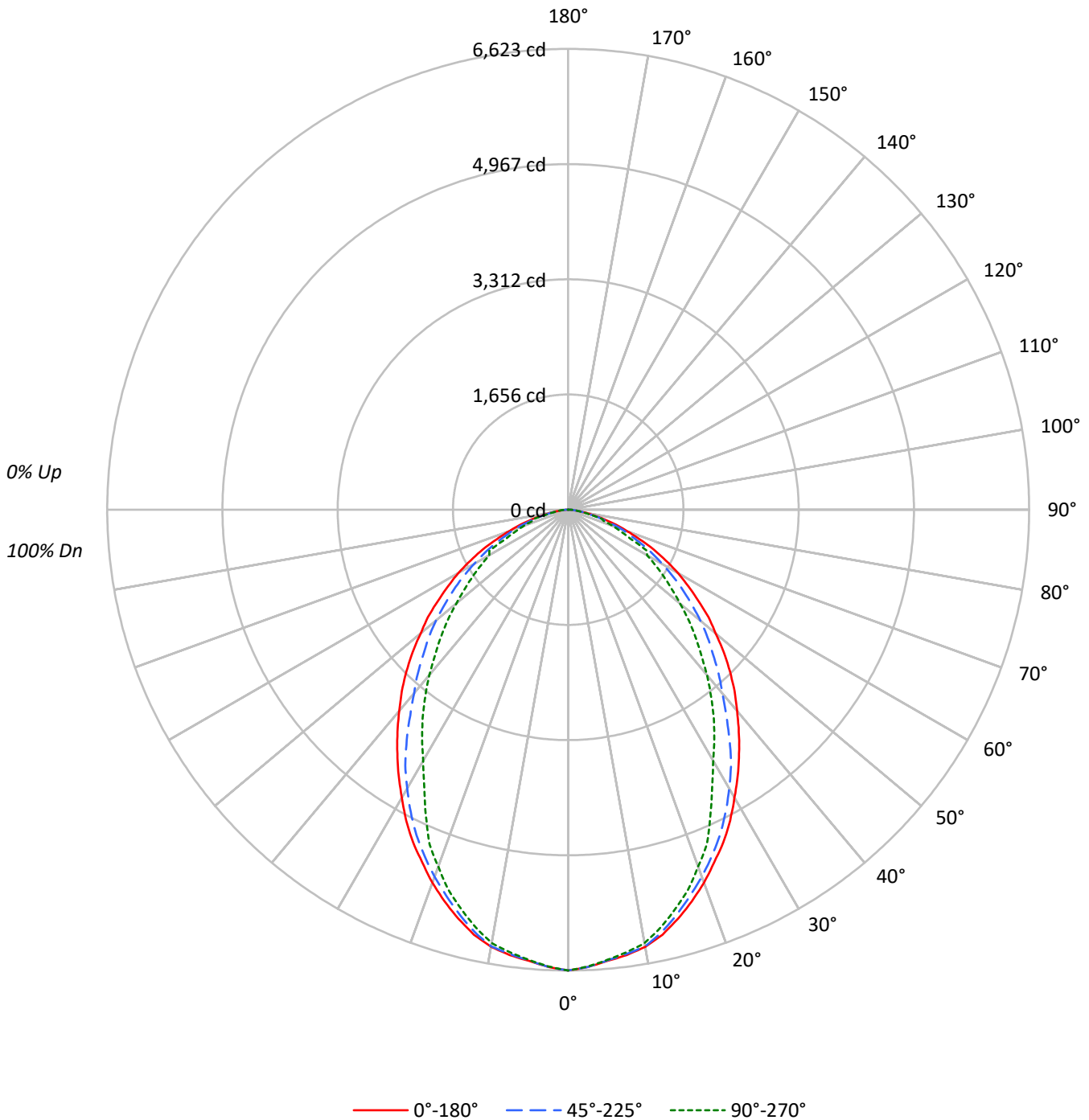
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8911	8911	8911
5°	8790	8780	8769
10°	8714	8704	8641
15°	8479	8394	8276
20°	8168	8036	7817
25°	7832	7661	7184
30°	7423	7185	6471
35°	7030	6640	5986
40°	6630	6052	5447
45°	6250	5595	4924
50°	5786	5193	4391
55°	5352	4706	3933
60°	4904	4203	3523
65°	4315	3681	3120
70°	3554	3223	2651
75°	2826	2468	2587
80°	1898	1780	1661
85°	1183	1419	1655

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6250 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	616.5	4.7
10°-20°	1692.0	13.0
20°-30°	2342.4	18.0
30°-40°	2497.7	19.2
40°-50°	2278.6	17.5
50°-60°	1785.1	13.7
60°-70°	1163.5	8.9
70°-80°	515.5	4.0
80°-90°	110.7	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°	4650.9	35.8
0°-40°	7148.6	55.0
0°-60°	11212.4	86.2
0°-90°	13002.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13002.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6623	6623	6623	6623	6623	
5°	6508	6500	6500	6493	6493	618
15°	6087	6087	6026	5965	5942	1711
25°	5276	5245	5161	4977	4839	2422
35°	4280	4250	4043	3736	3645	2676
45°	3285	3216	2940	2695	2588	2530
55°	2282	2213	2006	1769	1677	2047
65°	1355	1279	1156	1179	980	1336
75°	544	505	475	452	498	583
85°	77	84	92	100	107	106
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6623.0	6623.0	6623.0	6623.0	6623.0
2.5°	6577.1	6577.1	6577.1	6569.4	6569.4
5°	6508.2	6500.5	6500.5	6492.9	6492.9
7.5°	6454.6	6446.9	6439.3	6431.6	6416.3
10°	6378.0	6378.0	6370.4	6332.1	6324.4
12.5°	6255.5	6247.9	6217.2	6163.6	6148.3
15°	6087.1	6087.1	6025.8	5964.6	5941.6
17.5°	5903.3	5895.7	5819.1	5757.8	5727.2
20°	5704.2	5688.9	5612.4	5512.8	5459.2
22.5°	5482.2	5482.2	5390.3	5260.2	5206.6
25°	5275.5	5244.8	5160.6	4976.9	4839.0
27.5°	5038.1	4992.2	4900.3	4640.0	4479.2
30°	4777.8	4754.8	4624.6	4287.8	4165.2
32.5°	4532.8	4494.5	4356.7	4004.5	3904.9
35°	4280.1	4249.5	4042.7	3736.5	3644.6
37.5°	4027.4	3989.1	3728.8	3483.8	3368.9
40°	3774.8	3728.8	3445.5	3223.5	3101.0
42.5°	3537.4	3476.1	3200.5	2963.1	2825.3
45°	3284.7	3215.8	2940.2	2695.2	2588.0
47.5°	3032.1	2970.8	2718.1	2465.5	2343.0
50°	2764.1	2710.5	2480.8	2228.1	2097.9
52.5°	2542.0	2457.8	2235.8	1983.1	1875.9
55°	2281.7	2212.8	2006.1	1768.7	1676.8
57.5°	2044.3	1975.4	1784.0	1562.0	1485.4
60°	1822.3	1722.8	1562.0	1370.5	1309.3
62.5°	1577.3	1500.7	1362.9	1202.1	1278.7
65°	1355.2	1278.7	1156.2	1179.1	980.1
67.5°	1110.2	1071.9	964.7	857.6	826.9
70°	903.5	857.6	819.3	704.4	673.8
72.5°	719.7	673.8	620.2	558.9	536.0
75°	543.6	505.3	474.7	451.7	497.7
77.5°	375.2	359.9	336.9	313.9	306.3
80°	245.0	237.4	229.7	222.0	214.4
82.5°	145.5	145.5	145.5	145.5	145.5
85°	76.6	84.2	91.9	99.5	107.2
87.5°	45.9	45.9	53.6	61.3	68.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)