

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: P561448

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561448
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-LD4-2HI-40-UNV-93-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5850.0 lumens
Efficiency: N/A
Efficacy: 67.7 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

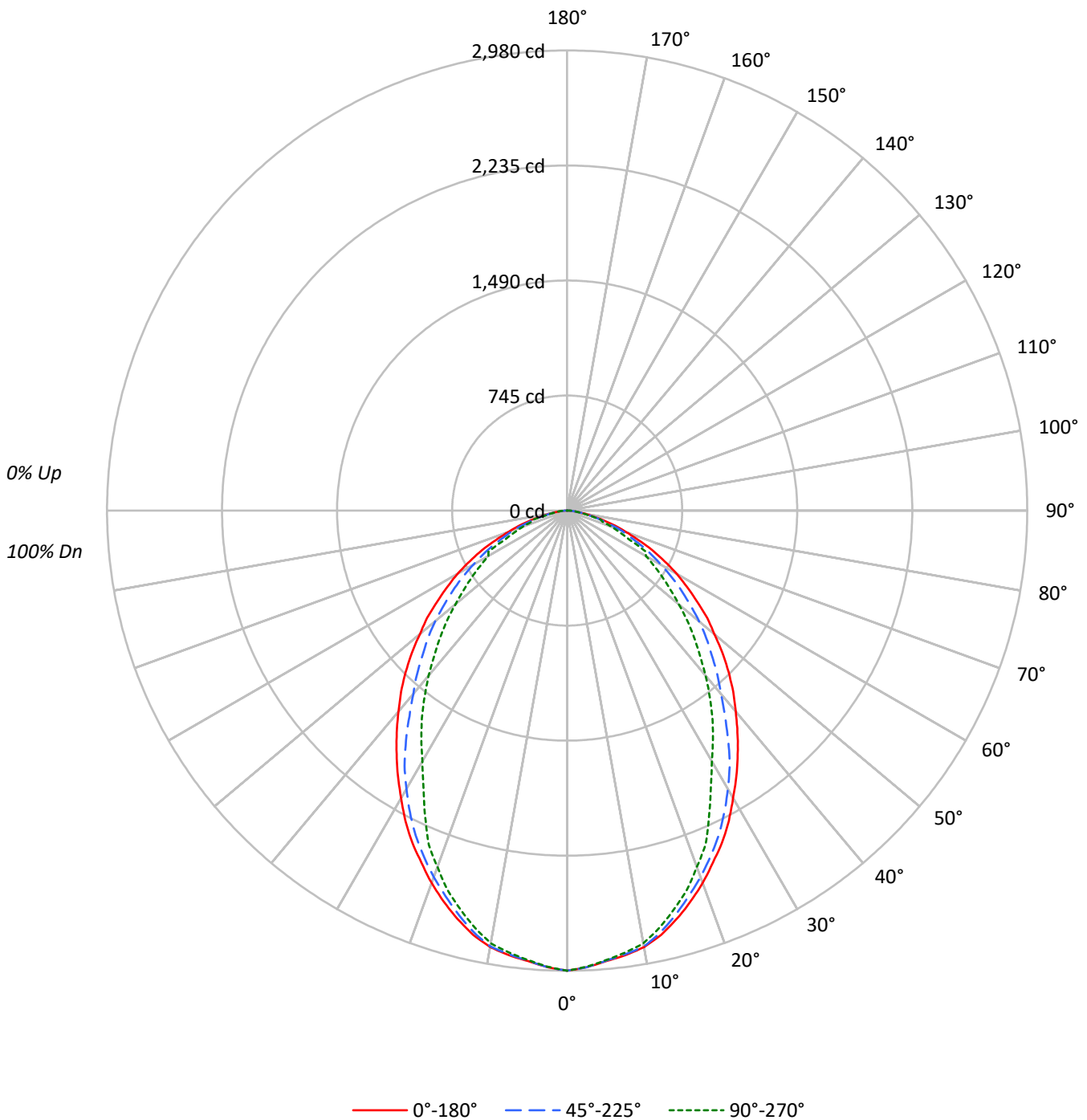
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8019	8019	8019
5°	7910	7901	7891
10°	7841	7832	7776
15°	7630	7553	7448
20°	7350	7231	7034
25°	7048	6894	6464
30°	6680	6466	5823
35°	6326	5976	5387
40°	5966	5446	4901
45°	5624	5034	4431
50°	5206	4673	3952
55°	4816	4235	3540
60°	4413	3782	3171
65°	3883	3312	2808
70°	3198	2900	2386
75°	2543	2221	2328
80°	1708	1601	1495
85°	1062	1275	1488

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5624 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	277.4	4.7
10°-20°	761.3	13.0
20°-30°	1053.9	18.0
30°-40°	1123.8	19.2
40°-50°	1025.2	17.5
50°-60°	803.2	13.7
60°-70°	523.5	8.9
70°-80°	231.9	4.0
80°-90°	49.8	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°	2092.6	35.8
0°-40°	3216.4	55.0
0°-60°	5044.8	86.2
0°-90°	5850.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5850.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2980	2980	2980	2980	2980	
5°	2928	2925	2925	2921	2921	278
15°	2739	2739	2711	2684	2673	770
25°	2374	2360	2322	2239	2177	1090
35°	1926	1912	1819	1681	1640	1204
45°	1478	1447	1323	1213	1164	1138
55°	1027	996	903	796	754	921
65°	610	575	520	530	441	601
75°	245	227	214	203	224	262
85°	34	38	41	45	48	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2979.9	2979.9	2979.9	2979.9	2979.9
2.5°	2959.2	2959.2	2959.2	2955.8	2955.8
5°	2928.2	2924.8	2924.8	2921.3	2921.3
7.5°	2904.1	2900.7	2897.2	2893.8	2886.9
10°	2869.7	2869.7	2866.2	2849.0	2845.6
12.5°	2814.6	2811.1	2797.3	2773.2	2766.3
15°	2738.8	2738.8	2711.2	2683.6	2673.3
17.5°	2656.1	2652.6	2618.2	2590.6	2576.8
20°	2566.5	2559.6	2525.2	2480.4	2456.3
22.5°	2466.6	2466.6	2425.3	2366.7	2342.6
25°	2373.6	2359.8	2321.9	2239.2	2177.2
27.5°	2266.8	2246.1	2204.8	2087.7	2015.3
30°	2149.7	2139.3	2080.8	1929.2	1874.1
32.5°	2039.4	2022.2	1960.2	1801.7	1756.9
35°	1925.7	1912.0	1819.0	1681.2	1639.8
37.5°	1812.1	1794.8	1677.7	1567.5	1515.8
40°	1698.4	1677.7	1550.2	1450.3	1395.2
42.5°	1591.6	1564.0	1440.0	1333.2	1271.2
45°	1477.9	1446.9	1322.9	1212.6	1164.4
47.5°	1364.2	1336.7	1223.0	1109.3	1054.2
50°	1243.6	1219.5	1116.2	1002.5	943.9
52.5°	1143.7	1105.8	1005.9	892.3	844.0
55°	1026.6	995.6	902.6	795.8	754.5
57.5°	919.8	888.8	802.7	702.8	668.3
60°	819.9	775.1	702.8	616.7	589.1
62.5°	709.7	675.2	613.2	540.9	575.3
65°	609.8	575.3	520.2	530.5	441.0
67.5°	499.5	482.3	434.1	385.8	372.1
70°	406.5	385.8	368.6	316.9	303.2
72.5°	323.8	303.2	279.0	251.5	241.1
75°	244.6	227.4	213.6	203.3	223.9
77.5°	168.8	161.9	151.6	141.2	137.8
80°	110.2	106.8	103.3	99.9	96.5
82.5°	65.5	65.5	65.5	65.5	65.5
85°	34.4	37.9	41.3	44.8	48.2
87.5°	20.7	20.7	24.1	27.6	31.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)