

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: P590943

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-81-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590943
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4STD-40-UNV-81-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7257.0 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

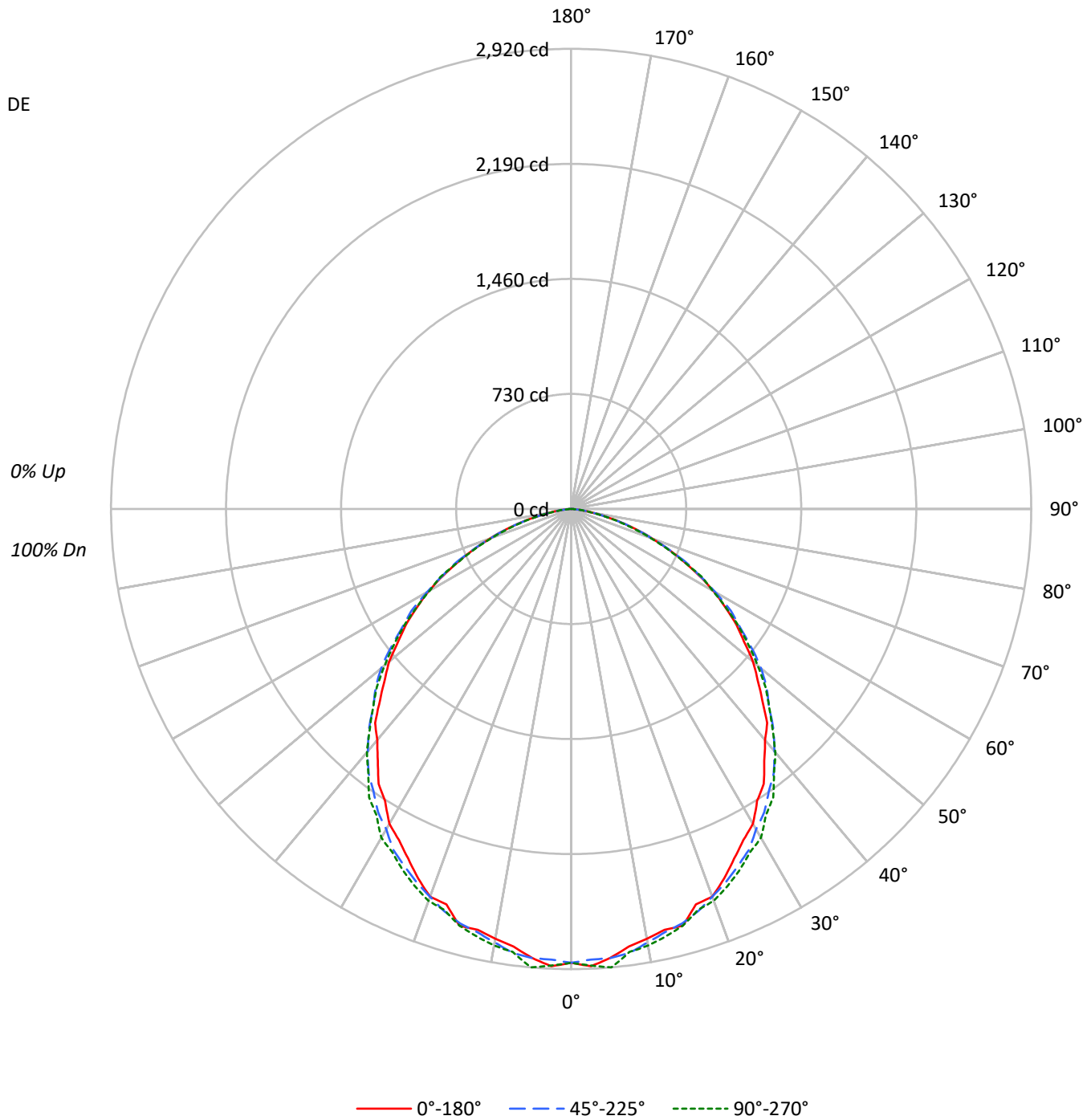
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7748	7748	7748
5°	7723	7726	7888
10°	7566	7632	7686
15°	7626	7585	7627
20°	7497	7497	7577
25°	7267	7426	7507
30°	7167	7293	7487
35°	6998	7181	7342
40°	6726	7050	7081
45°	6522	6755	6764
50°	6308	6593	6467
55°	6010	6127	6084
60°	5620	5676	5575
65°	5011	5139	4976
70°	4300	4315	4194
75°	3405	3398	3266
80°	2281	2218	2132
85°	1241	1229	1149

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6929 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	270.8	3.7
10°-20°	767.6	10.6
20°-30°	1150.1	15.8
30°-40°	1363.1	18.8
40°-50°	1365.6	18.8
50°-60°	1159.1	16.0
60°-70°	781.5	10.8
70°-80°	343.4	4.7
80°-90°	55.8	0.8
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°	2188.5	30.2
0°-40°	3551.6	48.9
0°-60°	6076.3	83.7
0°-90°	7257.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7257.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2879	2879	2879	2879	2879	
5°	2859	2852	2860	2852	2920	270
15°	2737	2706	2722	2737	2738	763
25°	2447	2461	2501	2534	2528	1131
35°	2130	2137	2186	2237	2235	1323
45°	1714	1746	1775	1821	1778	1326
55°	1281	1273	1306	1297	1297	1140
65°	787	777	807	776	782	783
75°	328	321	327	304	314	351
85°	40	39	40	39	37	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2879.4	2879.4	2879.4	2879.4	2879.4
2.5°	2904.3	2882.4	2861.9	2885.7	2900.2
5°	2858.9	2852.3	2860.1	2851.5	2920.3
7.5°	2800.2	2825.9	2840.7	2831.4	2835.5
10°	2769.0	2760.1	2793.1	2816.2	2812.8
12.5°	2735.5	2748.9	2750.8	2775.7	2777.9
15°	2737.4	2705.8	2722.5	2736.6	2737.7
17.5°	2631.0	2665.3	2676.8	2709.1	2669.0
20°	2618.0	2593.1	2618.0	2651.1	2645.9
22.5°	2538.1	2510.2	2563.8	2593.1	2591.3
25°	2447.4	2460.8	2500.9	2533.6	2528.4
27.5°	2367.8	2383.4	2440.7	2485.7	2456.7
30°	2306.5	2298.7	2347.0	2387.2	2409.5
32.5°	2196.8	2225.1	2281.6	2321.4	2300.2
35°	2130.3	2136.6	2186.0	2236.6	2235.1
37.5°	2013.9	2043.3	2112.8	2126.9	2113.9
40°	1914.6	1944.0	2006.8	2022.1	2015.8
42.5°	1841.4	1846.6	1900.5	1918.0	1890.1
45°	1713.9	1745.9	1774.9	1820.6	1777.5
47.5°	1605.3	1620.2	1682.7	1694.9	1672.2
50°	1506.8	1512.0	1574.8	1559.6	1544.7
52.5°	1383.0	1404.9	1440.3	1437.3	1419.8
55°	1281.1	1272.6	1306.0	1297.1	1296.7
57.5°	1158.8	1173.7	1201.2	1187.1	1164.4
60°	1044.3	1044.7	1054.7	1038.7	1035.8
62.5°	916.8	921.3	923.5	903.8	935.8
65°	787.0	776.6	807.1	776.3	781.5
67.5°	667.7	672.9	669.9	650.6	658.0
70°	546.5	553.2	548.4	526.4	533.1
72.5°	435.7	427.5	432.7	405.2	417.9
75°	327.5	320.8	326.8	303.7	314.1
77.5°	223.1	228.3	224.6	212.3	219.3
80°	147.2	143.1	143.1	136.1	137.6
82.5°	85.9	81.8	80.7	78.4	81.8
85°	40.2	39.0	39.8	38.7	37.2
87.5°	14.5	14.9	14.9	14.1	13.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)