

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: P590991

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590991
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-50-UNV-93-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7784.0 lumens
Efficiency: N/A
Efficacy: 116.9 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

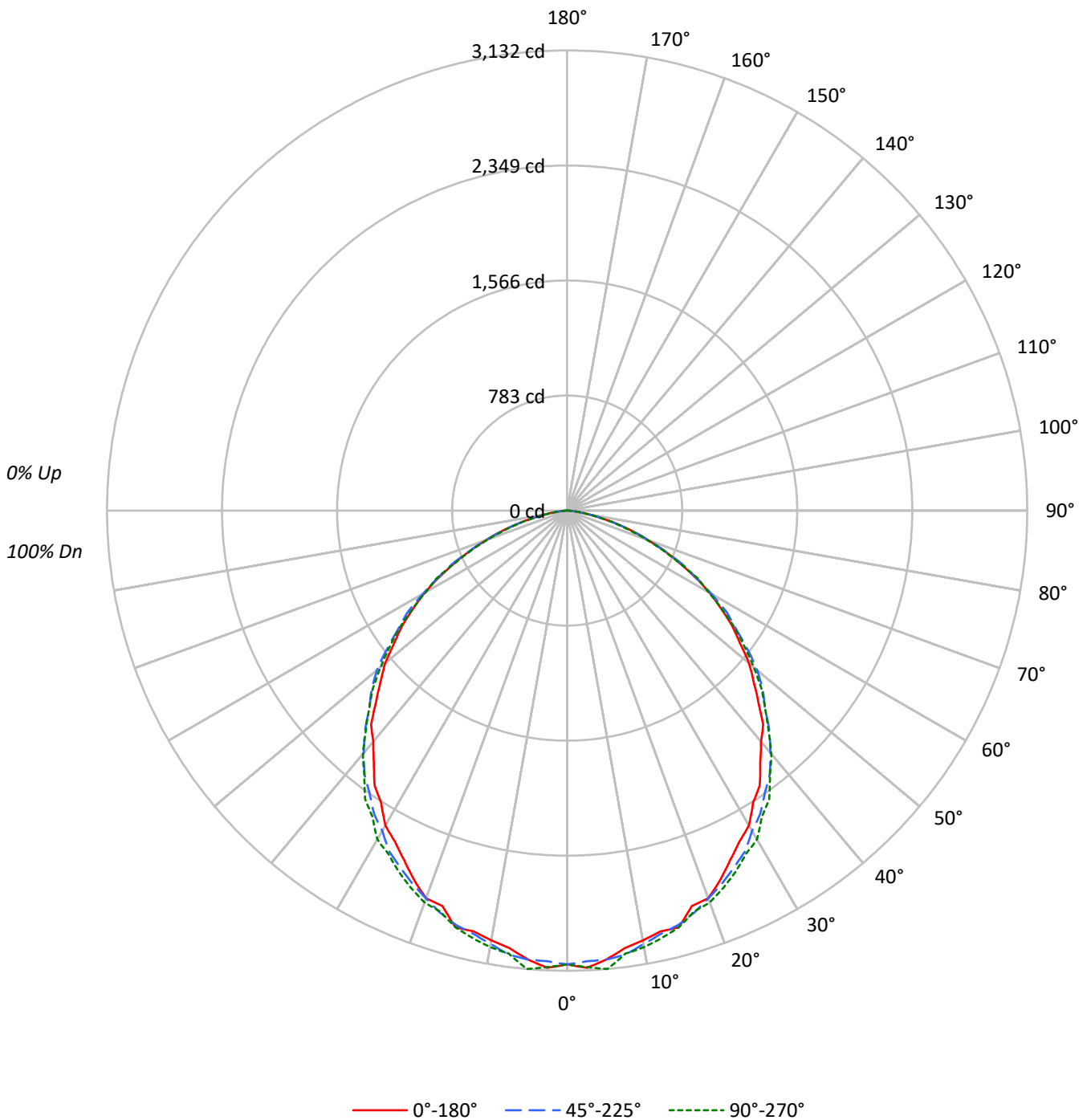
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8311	8311	8311
5°	8284	8287	8461
10°	8116	8187	8244
15°	8180	8135	8181
20°	8042	8042	8127
25°	7794	7965	8053
30°	7687	7823	8030
35°	7506	7703	7876
40°	7214	7562	7595
45°	6996	7245	7255
50°	6766	7072	6936
55°	6447	6572	6526
60°	6029	6089	5979
65°	5375	5512	5337
70°	4612	4628	4499
75°	3653	3644	3504
80°	2447	2379	2286
85°	1331	1318	1232

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7432 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	290.5	3.7
10°-20°	823.4	10.6
20°-30°	1233.6	15.8
30°-40°	1462.0	18.8
40°-50°	1464.7	18.8
50°-60°	1243.3	16.0
60°-70°	838.3	10.8
70°-80°	368.3	4.7
80°-90°	59.9	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°	2347.5	30.2
0°-40°	3809.5	48.9
0°-60°	6517.6	83.7
0°-90°	7784.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7784.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3088	3088	3088	3088	3088	
5°	3067	3059	3068	3059	3132	289
15°	2936	2902	2920	2935	2937	818
25°	2625	2640	2682	2718	2712	1214
35°	2285	2292	2345	2399	2397	1419
45°	1838	1873	1904	1953	1906	1422
55°	1374	1365	1401	1391	1391	1222
65°	844	833	866	833	838	840
75°	351	344	350	326	337	377
85°	43	42	43	42	40	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3088.5	3088.5	3088.5	3088.5	3088.5
2.5°	3115.2	3091.7	3069.8	3095.3	3110.8
5°	3066.6	3059.4	3067.8	3058.6	3132.4
7.5°	3003.6	3031.1	3047.0	3037.1	3041.4
10°	2970.1	2960.5	2996.0	3020.7	3017.1
12.5°	2934.2	2948.5	2950.5	2977.2	2979.6
15°	2936.2	2902.3	2920.2	2935.4	2936.6
17.5°	2822.1	2858.8	2871.2	2905.9	2862.8
20°	2808.2	2781.4	2808.2	2843.6	2838.1
22.5°	2722.4	2692.5	2749.9	2781.4	2779.4
25°	2625.1	2639.5	2682.5	2717.6	2712.1
27.5°	2539.8	2556.5	2617.9	2666.2	2635.1
30°	2474.0	2465.6	2517.5	2560.5	2584.4
32.5°	2356.3	2386.7	2447.3	2489.9	2467.2
35°	2285.0	2291.7	2344.8	2399.0	2397.4
37.5°	2160.2	2191.7	2266.2	2281.4	2267.4
40°	2053.7	2085.2	2152.6	2168.9	2162.1
42.5°	1975.1	1980.7	2038.5	2057.3	2027.4
45°	1838.3	1872.6	1903.7	1952.8	1906.5
47.5°	1721.9	1737.9	1804.8	1818.0	1793.7
50°	1616.2	1621.8	1689.2	1672.9	1656.9
52.5°	1483.4	1507.0	1544.8	1541.7	1522.9
55°	1374.2	1365.0	1400.9	1391.3	1390.9
57.5°	1243.0	1258.9	1288.4	1273.3	1249.0
60°	1120.2	1120.6	1131.3	1114.2	1111.0
62.5°	983.4	988.2	990.6	969.4	1003.7
65°	844.2	833.0	865.7	832.6	838.2
67.5°	716.2	721.8	718.6	697.9	705.8
70°	586.2	593.4	588.2	564.7	571.8
72.5°	467.4	458.6	464.2	434.7	448.2
75°	351.3	344.1	350.5	325.8	337.0
77.5°	239.3	244.8	240.9	227.7	235.3
80°	157.9	153.5	153.5	146.0	147.5
82.5°	92.1	87.7	86.5	84.1	87.7
85°	43.1	41.9	42.7	41.5	39.9
87.5°	15.6	16.0	16.0	15.2	14.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)