

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: P561856

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561856
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-LD4-2STD-50-UNV-81-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5639.0 lumens
Efficiency: N/A
Efficacy: 84.7 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

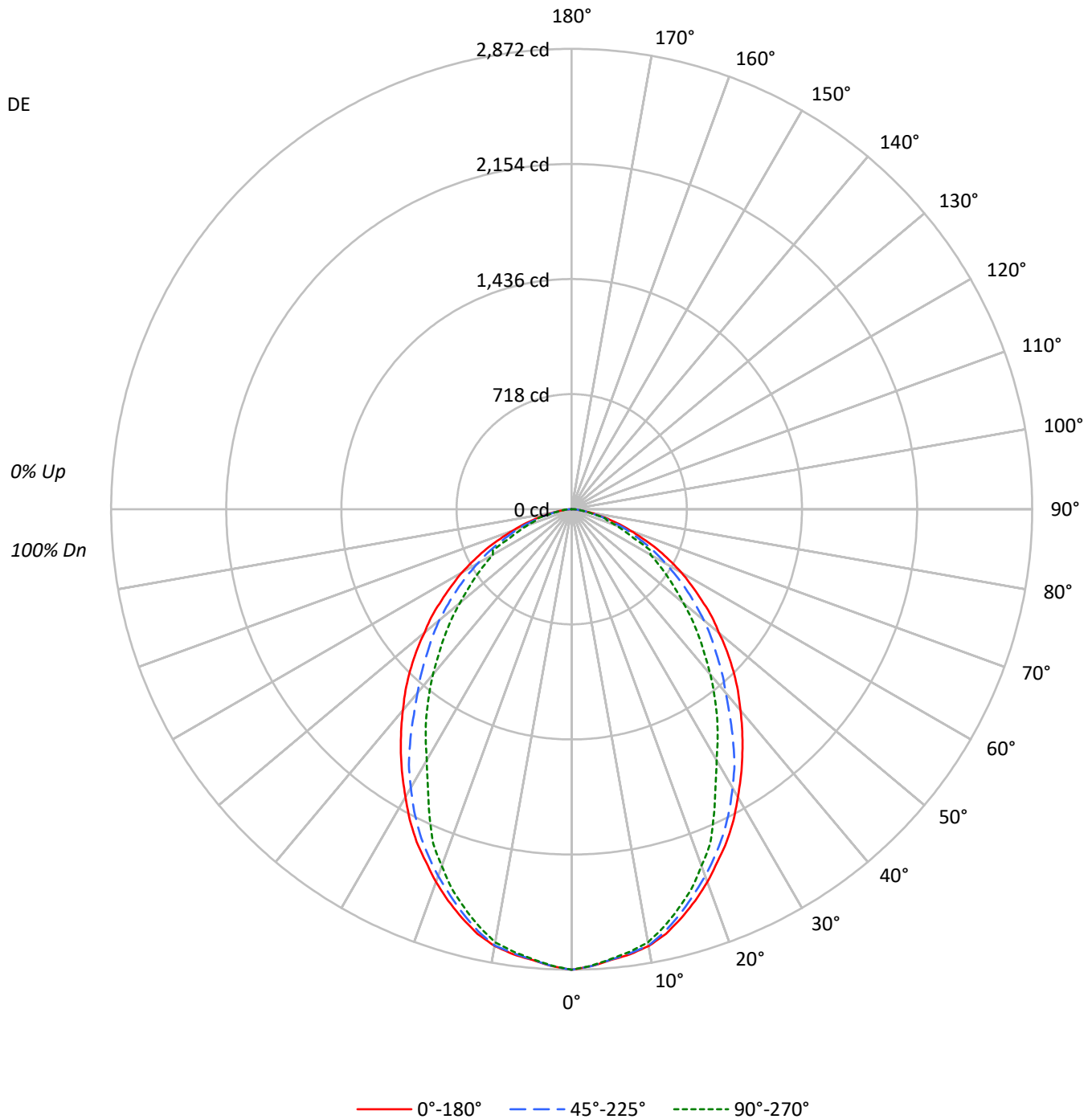
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7730	7730	7730
5°	7625	7616	7607
10°	7559	7549	7495
15°	7355	7281	7179
20°	7084	6970	6780
25°	6793	6646	6231
30°	6439	6232	5613
35°	6098	5760	5193
40°	5751	5249	4724
45°	5421	4853	4271
50°	5019	4504	3809
55°	4643	4082	3412
60°	4253	3646	3056
65°	3743	3193	2707
70°	3083	2795	2299
75°	2452	2141	2244
80°	1647	1543	1441
85°	1025	1229	1436

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5421 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	267.4	4.7
10°-20°	733.8	13.0
20°-30°	1015.9	18.0
30°-40°	1083.3	19.2
40°-50°	988.2	17.5
50°-60°	774.2	13.7
60°-70°	504.6	8.9
70°-80°	223.5	4.0
80°-90°	48.0	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°	2017.1	35.8
0°-40°	3100.4	55.0
0°-60°	4862.8	86.2
0°-90°	5639.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5639.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2872	2872	2872	2872	2872	
5°	2823	2819	2819	2816	2816	268
15°	2640	2640	2613	2587	2577	742
25°	2288	2275	2238	2158	2099	1050
35°	1856	1843	1753	1620	1581	1161
45°	1425	1395	1275	1169	1122	1097
55°	990	960	870	767	727	888
65°	588	555	501	511	425	579
75°	236	219	206	196	216	253
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2872.4	2872.4	2872.4	2872.4	2872.4
2.5°	2852.5	2852.5	2852.5	2849.2	2849.2
5°	2822.6	2819.3	2819.3	2816.0	2816.0
7.5°	2799.4	2796.1	2792.7	2789.4	2782.8
10°	2766.2	2766.2	2762.8	2746.2	2742.9
12.5°	2713.0	2709.7	2696.4	2673.2	2666.5
15°	2640.0	2640.0	2613.4	2586.8	2576.9
17.5°	2560.3	2557.0	2523.8	2497.2	2483.9
20°	2473.9	2467.3	2434.1	2390.9	2367.7
22.5°	2377.6	2377.6	2337.8	2281.3	2258.1
25°	2288.0	2274.7	2238.2	2158.5	2098.7
27.5°	2185.0	2165.1	2125.3	2012.4	1942.6
30°	2072.1	2062.2	2005.7	1859.6	1806.5
32.5°	1965.9	1949.3	1889.5	1736.7	1693.6
35°	1856.3	1843.0	1753.3	1620.5	1580.7
37.5°	1746.7	1730.1	1617.2	1510.9	1461.1
40°	1637.1	1617.2	1494.3	1398.0	1344.9
42.5°	1534.2	1507.6	1388.1	1285.1	1225.3
45°	1424.6	1394.7	1275.2	1168.9	1122.4
47.5°	1315.0	1288.4	1178.9	1069.3	1016.1
50°	1198.8	1175.5	1075.9	966.3	909.9
52.5°	1102.5	1066.0	969.7	860.1	813.6
55°	989.6	959.7	870.0	767.1	727.2
57.5°	886.6	856.7	773.7	677.4	644.2
60°	790.3	747.2	677.4	594.4	567.8
62.5°	684.1	650.9	591.1	521.4	554.6
65°	587.8	554.6	501.4	511.4	425.1
67.5°	481.5	464.9	418.4	371.9	358.6
70°	391.8	371.9	355.3	305.5	292.2
72.5°	312.1	292.2	269.0	242.4	232.5
75°	235.8	219.2	205.9	195.9	215.8
77.5°	162.7	156.1	146.1	136.1	132.8
80°	106.3	102.9	99.6	96.3	93.0
82.5°	63.1	63.1	63.1	63.1	63.1
85°	33.2	36.5	39.8	43.2	46.5
87.5°	19.9	19.9	23.2	26.6	29.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)