

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: P561760

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561760
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-35-UNV-93-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5569.0 lumens
Efficiency: N/A
Efficacy: 83.6 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

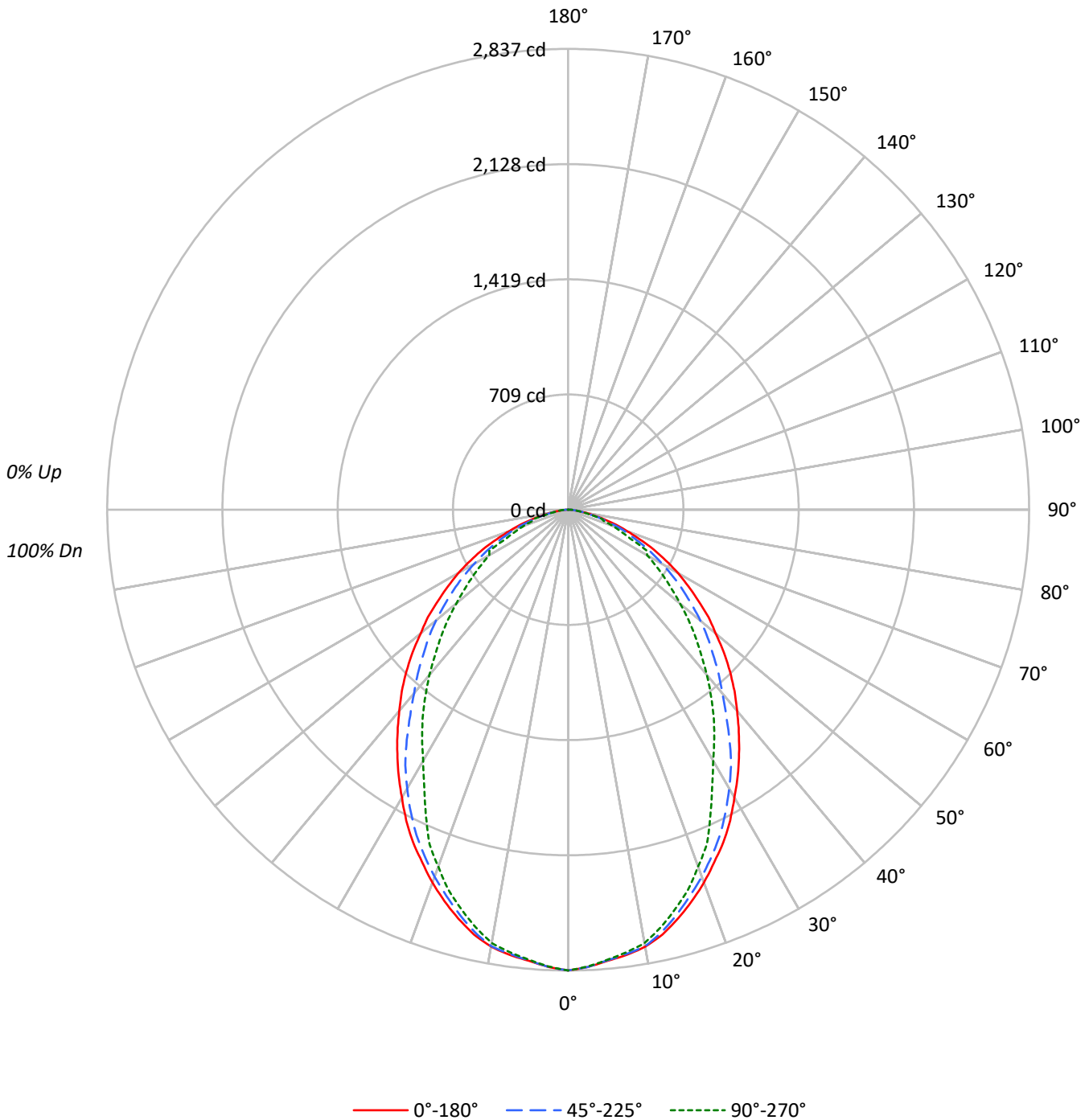
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7634	7634	7634
5°	7530	7521	7512
10°	7465	7456	7402
15°	7263	7190	7090
20°	6997	6884	6696
25°	6709	6563	6154
30°	6359	6155	5544
35°	6022	5688	5128
40°	5680	5184	4666
45°	5354	4792	4219
50°	4956	4448	3762
55°	4585	4031	3369
60°	4201	3601	3018
65°	3696	3153	2673
70°	3045	2761	2271
75°	2420	2114	2217
80°	1626	1525	1423
85°	1013	1216	1417

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5354 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	264.1	4.7
10°-20°	724.7	13.0
20°-30°	1003.3	18.0
30°-40°	1069.8	19.2
40°-50°	976.0	17.5
50°-60°	764.6	13.7
60°-70°	498.3	8.9
70°-80°	220.8	4.0
80°-90°	47.4	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°	1992.1	35.8
0°-40°	3061.9	55.0
0°-60°	4802.5	86.2
0°-90°	5569.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5569.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2837	2837	2837	2837	2837	
5°	2788	2784	2784	2781	2781	265
15°	2607	2607	2581	2555	2545	733
25°	2260	2246	2210	2132	2073	1037
35°	1833	1820	1732	1600	1561	1146
45°	1407	1377	1259	1154	1108	1084
55°	977	948	859	758	718	877
65°	580	548	495	505	420	572
75°	233	216	203	194	213	250
85°	33	36	39	43	46	45
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2836.8	2836.8	2836.8	2836.8	2836.8
2.5°	2817.1	2817.1	2817.1	2813.8	2813.8
5°	2787.6	2784.3	2784.3	2781.0	2781.0
7.5°	2764.6	2761.3	2758.1	2754.8	2748.2
10°	2731.8	2731.8	2728.6	2712.2	2708.9
12.5°	2679.4	2676.1	2663.0	2640.0	2633.4
15°	2607.2	2607.2	2581.0	2554.7	2544.9
17.5°	2528.5	2525.2	2492.4	2466.2	2453.1
20°	2443.2	2436.7	2403.9	2361.2	2338.3
22.5°	2348.1	2348.1	2308.8	2253.0	2230.1
25°	2259.6	2246.5	2210.4	2131.7	2072.6
27.5°	2157.9	2138.2	2098.9	1987.4	1918.5
30°	2046.4	2036.6	1980.8	1836.5	1784.1
32.5°	1941.5	1925.1	1866.0	1715.2	1672.5
35°	1833.2	1820.1	1731.6	1600.4	1561.0
37.5°	1725.0	1708.6	1597.1	1492.2	1443.0
40°	1616.8	1597.1	1475.8	1380.7	1328.2
42.5°	1515.1	1488.9	1370.8	1269.2	1210.1
45°	1406.9	1377.4	1259.3	1154.4	1108.5
47.5°	1298.7	1272.4	1164.2	1056.0	1003.5
50°	1183.9	1160.9	1062.6	954.3	898.6
52.5°	1088.8	1052.7	957.6	849.4	803.5
55°	977.3	947.8	859.2	757.6	718.2
57.5°	875.6	846.1	764.1	669.0	636.2
60°	780.5	737.9	669.0	587.0	560.8
62.5°	675.6	642.8	583.8	514.9	547.7
65°	580.5	547.7	495.2	505.0	419.8
67.5°	475.5	459.1	413.2	367.3	354.2
70°	387.0	367.3	350.9	301.7	288.6
72.5°	308.3	288.6	265.6	239.4	229.6
75°	232.8	216.4	203.3	193.5	213.2
77.5°	160.7	154.1	144.3	134.5	131.2
80°	104.9	101.7	98.4	95.1	91.8
82.5°	62.3	62.3	62.3	62.3	62.3
85°	32.8	36.1	39.4	42.6	45.9
87.5°	19.7	19.7	23.0	26.2	29.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)