

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: P561866

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561866
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-81-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5652.0 lumens
Efficiency: N/A
Efficacy: 84.9 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

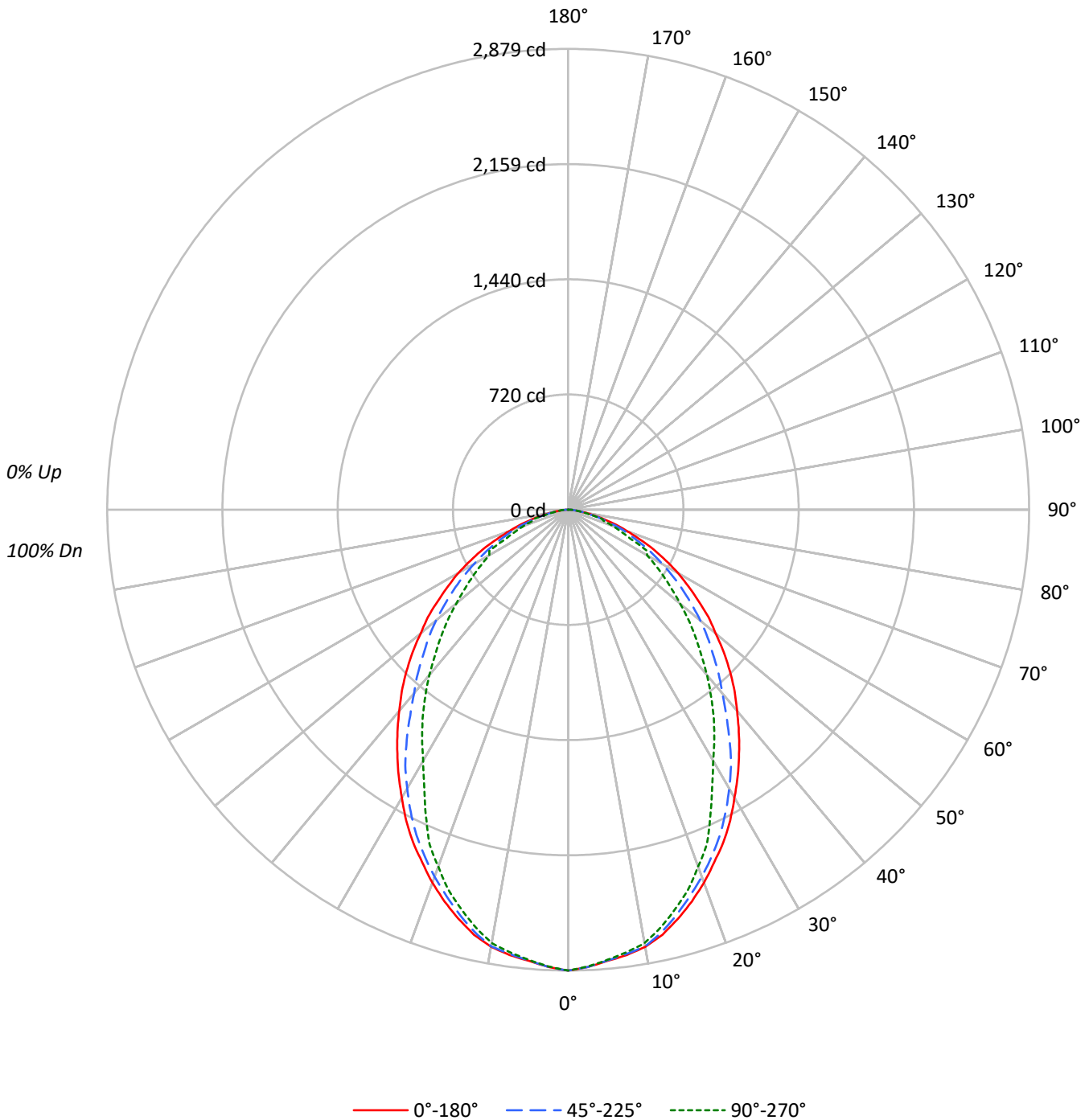
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7748	7748	7748
5°	7642	7633	7624
10°	7576	7567	7512
15°	7372	7297	7195
20°	7101	6987	6796
25°	6809	6661	6246
30°	6453	6247	5626
35°	6112	5773	5205
40°	5764	5262	4735
45°	5434	4864	4281
50°	5030	4515	3818
55°	4654	4091	3420
60°	4264	3654	3063
65°	3751	3200	2713
70°	3090	2802	2305
75°	2457	2146	2249
80°	1650	1548	1444
85°	1028	1232	1439

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5434 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.0	4.7
10°-20°	735.5	13.0
20°-30°	1018.3	18.0
30°-40°	1085.8	19.2
40°-50°	990.5	17.5
50°-60°	776.0	13.7
60°-70°	505.8	8.9
70°-80°	224.1	4.0
80°-90°	48.1	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°	2021.8	35.8
0°-40°	3107.5	55.0
0°-60°	4874.1	86.2
0°-90°	5652.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5652.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2879	2879	2879	2879	2879	
5°	2829	2826	2826	2822	2822	269
15°	2646	2646	2619	2593	2583	744
25°	2293	2280	2243	2164	2104	1053
35°	1861	1847	1757	1624	1584	1163
45°	1428	1398	1278	1172	1125	1100
55°	992	962	872	769	729	890
65°	589	556	503	513	426	581
75°	236	220	206	196	216	253
85°	33	37	40	43	47	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2879.1	2879.1	2879.1	2879.1	2879.1
2.5°	2859.1	2859.1	2859.1	2855.8	2855.8
5°	2829.1	2825.8	2825.8	2822.5	2822.5
7.5°	2805.8	2802.5	2799.2	2795.8	2789.2
10°	2772.5	2772.5	2769.2	2752.6	2749.2
12.5°	2719.3	2716.0	2702.6	2679.4	2672.7
15°	2646.1	2646.1	2619.4	2592.8	2582.8
17.5°	2566.2	2562.9	2529.6	2502.9	2489.6
20°	2479.6	2473.0	2439.7	2396.4	2373.1
22.5°	2383.1	2383.1	2343.2	2286.6	2263.3
25°	2293.3	2279.9	2243.3	2163.5	2103.5
27.5°	2190.1	2170.1	2130.2	2017.0	1947.1
30°	2076.9	2066.9	2010.3	1863.9	1810.6
32.5°	1970.4	1953.8	1893.9	1740.7	1697.5
35°	1860.6	1847.3	1757.4	1624.3	1584.3
37.5°	1750.7	1734.1	1620.9	1514.4	1464.5
40°	1640.9	1620.9	1497.8	1401.3	1348.0
42.5°	1537.7	1511.1	1391.3	1288.1	1228.2
45°	1427.9	1397.9	1278.1	1171.6	1125.0
47.5°	1318.0	1291.4	1181.6	1071.7	1018.5
50°	1201.5	1178.2	1078.4	968.6	912.0
52.5°	1105.0	1068.4	971.9	862.1	815.5
55°	991.9	961.9	872.0	768.9	728.9
57.5°	888.7	858.7	775.5	679.0	645.7
60°	792.2	748.9	679.0	595.8	569.2
62.5°	685.6	652.4	592.5	522.6	555.8
65°	589.1	555.8	502.6	512.6	426.0
67.5°	482.6	466.0	419.4	372.8	359.5
70°	392.7	372.8	356.1	306.2	292.9
72.5°	312.9	292.9	269.6	243.0	233.0
75°	236.3	219.7	206.4	196.4	216.3
77.5°	163.1	156.4	146.4	136.5	133.1
80°	106.5	103.2	99.9	96.5	93.2
82.5°	63.2	63.2	63.2	63.2	63.2
85°	33.3	36.6	39.9	43.3	46.6
87.5°	20.0	20.0	23.3	26.6	30.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)