

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: P560925

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560925
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-LD4-1HI-50-UNV-82-96-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3857.0 lumens
Efficiency: N/A
Efficacy: 89.3 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

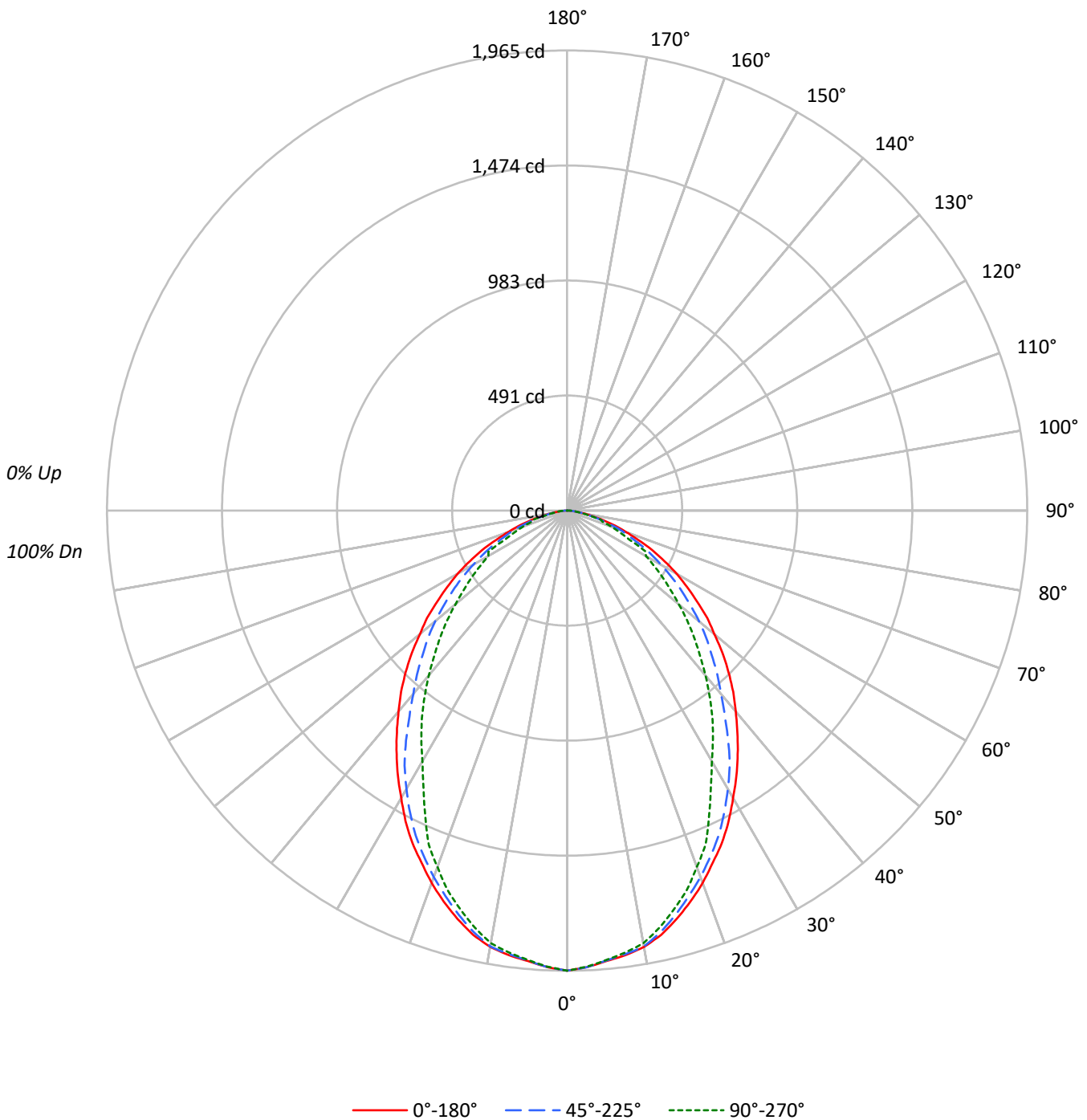
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5287	5287	5287
5°	5215	5209	5203
10°	5170	5164	5126
15°	5031	4980	4910
20°	4846	4768	4638
25°	4646	4545	4262
30°	4404	4263	3839
35°	4171	3940	3552
40°	3934	3590	3231
45°	3708	3319	2922
50°	3433	3081	2605
55°	3176	2792	2334
60°	2909	2494	2090
65°	2560	2184	1851
70°	2109	1912	1573
75°	1677	1464	1535
80°	1127	1055	986
85°	701	843	982

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3708 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.9	4.7
10°-20°	501.9	13.0
20°-30°	694.9	18.0
30°-40°	740.9	19.2
40°-50°	676.0	17.5
50°-60°	529.6	13.7
60°-70°	345.1	8.9
70°-80°	152.9	4.0
80°-90°	32.8	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°	1379.7	35.8
0°-40°	2120.6	55.0
0°-60°	3326.1	86.2
0°-90°	3857.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3857.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1965	1965	1965	1965	1965	
5°	1931	1928	1928	1926	1926	183
15°	1806	1806	1788	1769	1763	508
25°	1565	1556	1531	1476	1436	718
35°	1270	1261	1199	1108	1081	794
45°	974	954	872	800	768	751
55°	677	656	595	525	497	607
65°	402	379	343	350	291	396
75°	161	150	141	134	148	173
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1964.7	1964.7	1964.7	1964.7	1964.7
2.5°	1951.1	1951.1	1951.1	1948.8	1948.8
5°	1930.6	1928.4	1928.4	1926.1	1926.1
7.5°	1914.7	1912.5	1910.2	1907.9	1903.4
10°	1892.0	1892.0	1889.8	1878.4	1876.1
12.5°	1855.7	1853.4	1844.3	1828.4	1823.9
15°	1805.7	1805.7	1787.5	1769.4	1762.6
17.5°	1751.2	1748.9	1726.2	1708.0	1699.0
20°	1692.1	1687.6	1664.9	1635.4	1619.5
22.5°	1626.3	1626.3	1599.0	1560.4	1544.5
25°	1564.9	1555.9	1530.9	1476.4	1435.5
27.5°	1494.5	1480.9	1453.7	1376.4	1328.7
30°	1417.3	1410.5	1371.9	1271.9	1235.6
32.5°	1344.6	1333.3	1292.4	1187.9	1158.4
35°	1269.7	1260.6	1199.3	1108.4	1081.2
37.5°	1194.7	1183.4	1106.1	1033.5	999.4
40°	1119.8	1106.1	1022.1	956.2	919.9
42.5°	1049.4	1031.2	949.4	879.0	838.1
45°	974.4	954.0	872.2	799.5	767.7
47.5°	899.4	881.3	806.3	731.4	695.0
50°	820.0	804.1	735.9	661.0	622.3
52.5°	754.1	729.1	663.2	588.3	556.5
55°	676.9	656.4	595.1	524.7	497.4
57.5°	606.4	586.0	529.2	463.4	440.6
60°	540.6	511.1	463.4	406.6	388.4
62.5°	467.9	445.2	404.3	356.6	379.3
65°	402.0	379.3	343.0	349.8	290.7
67.5°	329.3	318.0	286.2	254.4	245.3
70°	268.0	254.4	243.0	209.0	199.9
72.5°	213.5	199.9	184.0	165.8	159.0
75°	161.3	149.9	140.8	134.0	147.6
77.5°	111.3	106.8	99.9	93.1	90.9
80°	72.7	70.4	68.1	65.9	63.6
82.5°	43.2	43.2	43.2	43.2	43.2
85°	22.7	25.0	27.3	29.5	31.8
87.5°	13.6	13.6	15.9	18.2	20.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)