

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: P561648

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-80-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561648
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-LD4-2LO-50-UNV-80-84-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4433.0 lumens
Efficiency: N/A
Efficacy: 94.7 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

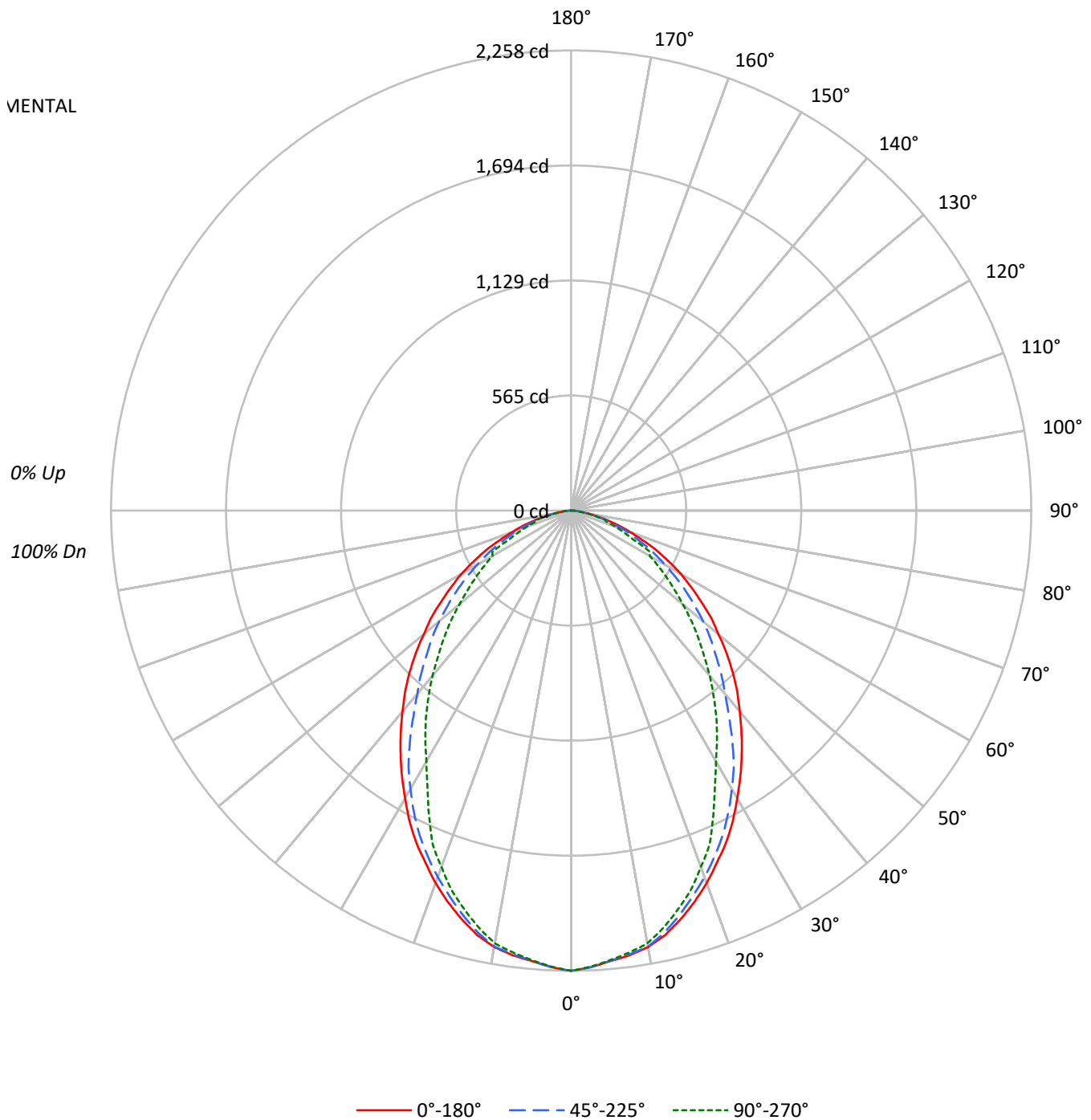
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6076	6076	6076
5°	5994	5987	5980
10°	5942	5935	5892
15°	5782	5724	5644
20°	5569	5480	5330
25°	5341	5224	4899
30°	5062	4900	4413
35°	4794	4528	4082
40°	4521	4127	3714
45°	4262	3815	3358
50°	3945	3541	2995
55°	3650	3209	2682
60°	3344	2866	2403
65°	2942	2510	2127
70°	2423	2198	1807
75°	1927	1683	1764
80°	1294	1213	1133
85°	806	966	1127

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4262 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.2	4.7
10°-20°	576.9	13.0
20°-30°	798.6	18.0
30°-40°	851.6	19.2
40°-50°	776.9	17.5
50°-60°	608.6	13.7
60°-70°	396.7	8.9
70°-80°	175.7	4.0
80°-90°	37.7	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°	1585.7	35.8
0°-40°	2437.3	55.0
0°-60°	3822.8	86.2
0°-90°	4433.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4433.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2258	2258	2258	2258	2258	
5°	2219	2216	2216	2214	2214	211
15°	2075	2075	2054	2034	2026	583
25°	1799	1788	1760	1697	1650	826
35°	1459	1449	1378	1274	1243	912
45°	1120	1096	1002	919	882	863
55°	778	754	684	603	572	698
65°	462	436	394	402	334	455
75°	185	172	162	154	170	199
85°	26	29	31	34	36	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2258.1	2258.1	2258.1	2258.1	2258.1
2.5°	2242.4	2242.4	2242.4	2239.8	2239.8
5°	2219.0	2216.3	2216.3	2213.7	2213.7
7.5°	2200.7	2198.1	2195.5	2192.8	2187.6
10°	2174.6	2174.6	2172.0	2158.9	2156.3
12.5°	2132.8	2130.2	2119.8	2101.5	2096.3
15°	2075.4	2075.4	2054.5	2033.6	2025.8
17.5°	2012.7	2010.1	1984.0	1963.1	1952.7
20°	1944.8	1939.6	1913.5	1879.6	1861.3
22.5°	1869.1	1869.1	1837.8	1793.4	1775.2
25°	1798.7	1788.2	1759.5	1696.8	1649.9
27.5°	1717.7	1702.1	1670.7	1582.0	1527.2
30°	1629.0	1621.1	1576.8	1461.9	1420.1
32.5°	1545.4	1532.4	1485.4	1365.3	1331.4
35°	1459.3	1448.8	1378.4	1273.9	1242.6
37.5°	1373.1	1360.1	1271.3	1187.8	1148.6
40°	1287.0	1271.3	1174.7	1099.0	1057.3
42.5°	1206.1	1185.2	1091.2	1010.3	963.3
45°	1119.9	1096.4	1002.4	918.9	882.4
47.5°	1033.8	1012.9	926.7	840.6	798.8
50°	942.4	924.1	845.8	759.7	715.3
52.5°	866.7	838.0	762.3	676.1	639.6
55°	777.9	754.4	684.0	603.0	571.7
57.5°	697.0	673.5	608.3	532.5	506.4
60°	621.3	587.4	532.5	467.3	446.4
62.5°	537.8	511.7	464.7	409.9	436.0
65°	462.1	436.0	394.2	402.0	334.1
67.5°	378.5	365.5	328.9	292.4	281.9
70°	308.0	292.4	279.3	240.2	229.7
72.5°	245.4	229.7	211.5	190.6	182.7
75°	185.3	172.3	161.9	154.0	169.7
77.5°	127.9	122.7	114.9	107.0	104.4
80°	83.5	80.9	78.3	75.7	73.1
82.5°	49.6	49.6	49.6	49.6	49.6
85°	26.1	28.7	31.3	33.9	36.5
87.5°	15.7	15.7	18.3	20.9	23.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)