

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: P561672

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561672
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-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3556.0 lumens
Efficiency: N/A
Efficacy: 76.0 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

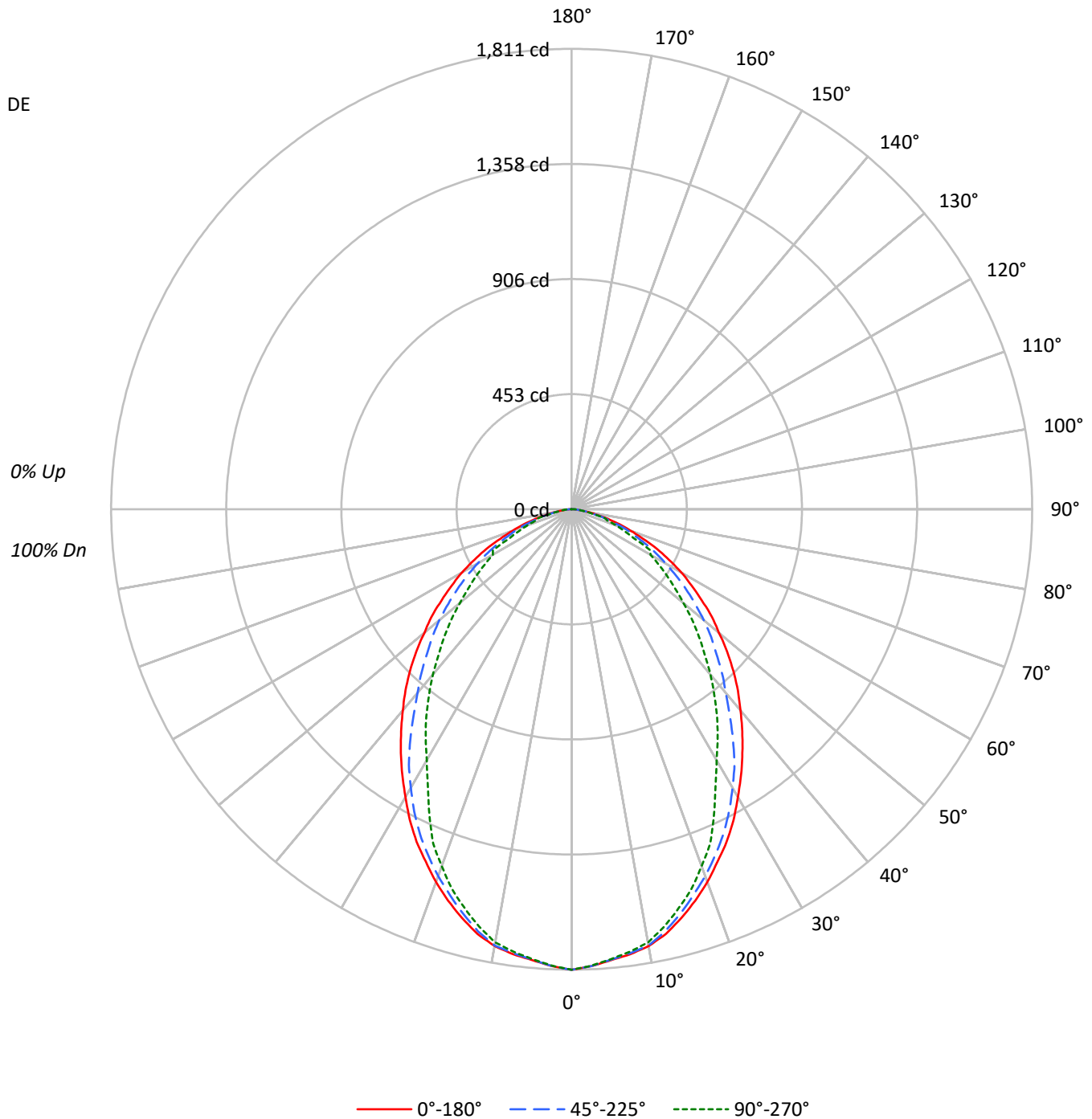
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4874	4874	4874
5°	4808	4803	4797
10°	4767	4761	4726
15°	4638	4591	4527
20°	4468	4396	4276
25°	4284	4191	3930
30°	4060	3930	3540
35°	3846	3632	3275
40°	3627	3310	2979
45°	3419	3060	2694
50°	3165	2840	2402
55°	2928	2574	2152
60°	2682	2299	1927
65°	2360	2013	1706
70°	1944	1763	1450
75°	1546	1350	1415
80°	1038	973	908
85°	645	775	905

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3419 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.6	4.7
10°-20°	462.7	13.0
20°-30°	640.6	18.0
30°-40°	683.1	19.2
40°-50°	623.2	17.5
50°-60°	488.2	13.7
60°-70°	318.2	8.9
70°-80°	141.0	4.0
80°-90°	30.3	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°	1272.0	35.8
0°-40°	1955.1	55.0
0°-60°	3066.5	86.2
0°-90°	3556.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3556.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1811	1811	1811	1811	1811	
5°	1780	1778	1778	1776	1776	169
15°	1665	1665	1648	1631	1625	468
25°	1443	1434	1411	1361	1324	662
35°	1171	1162	1106	1022	997	732
45°	898	880	804	737	708	692
55°	624	605	549	484	459	560
65°	371	350	316	322	268	365
75°	149	138	130	124	136	159
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1811.4	1811.4	1811.4	1811.4	1811.4
2.5°	1798.8	1798.8	1798.8	1796.7	1796.7
5°	1780.0	1777.9	1777.9	1775.8	1775.8
7.5°	1765.3	1763.2	1761.1	1759.0	1754.8
10°	1744.4	1744.4	1742.3	1731.8	1729.7
12.5°	1710.9	1708.8	1700.4	1685.7	1681.5
15°	1664.8	1664.8	1648.0	1631.3	1625.0
17.5°	1614.5	1612.4	1591.5	1574.7	1566.4
20°	1560.1	1555.9	1535.0	1507.7	1493.1
22.5°	1499.4	1499.4	1474.2	1438.6	1424.0
25°	1442.8	1434.4	1411.4	1361.2	1323.5
27.5°	1377.9	1365.3	1340.2	1269.0	1225.0
30°	1306.7	1300.4	1264.8	1172.7	1139.2
32.5°	1239.7	1229.2	1191.5	1095.2	1068.0
35°	1170.6	1162.2	1105.7	1021.9	996.8
37.5°	1101.5	1091.0	1019.8	952.8	921.4
40°	1032.4	1019.8	942.3	881.6	848.1
42.5°	967.5	950.7	875.3	810.4	772.7
45°	898.4	879.5	804.1	737.1	707.8
47.5°	829.3	812.5	743.4	674.3	640.8
50°	756.0	741.3	678.5	609.4	573.8
52.5°	695.2	672.2	611.5	542.4	513.0
55°	624.0	605.2	548.6	483.7	458.6
57.5°	559.1	540.3	487.9	427.2	406.3
60°	498.4	471.2	427.2	374.8	358.1
62.5°	431.4	410.4	372.7	328.8	349.7
65°	370.7	349.7	316.2	322.5	268.0
67.5°	303.6	293.2	263.9	234.5	226.2
70°	247.1	234.5	224.1	192.7	184.3
72.5°	196.8	184.3	169.6	152.9	146.6
75°	148.7	138.2	129.8	123.6	136.1
77.5°	102.6	98.4	92.1	85.9	83.8
80°	67.0	64.9	62.8	60.7	58.6
82.5°	39.8	39.8	39.8	39.8	39.8
85°	20.9	23.0	25.1	27.2	29.3
87.5°	12.6	12.6	14.7	16.8	18.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)