

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: P562382

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-81-97-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562382
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-24-4-LD4-1STD-40-UNV-81-97-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3007.0 lumens
Efficiency: N/A
Efficacy: 90.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

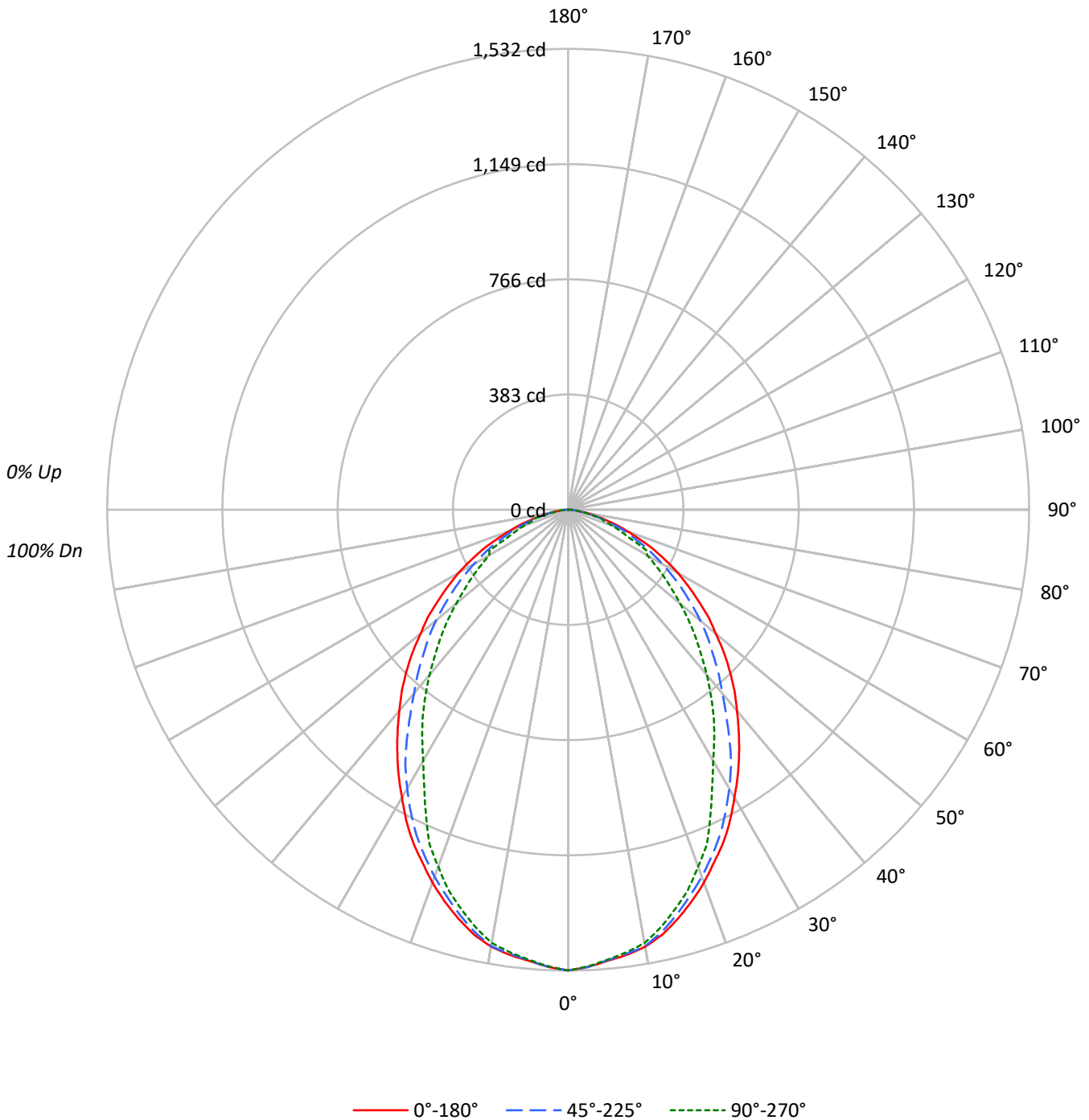
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	2061	2061	2061
5°	2033	2031	2028
10°	2015	2013	1998
15°	1961	1941	1914
20°	1889	1859	1808
25°	1811	1772	1661
30°	1717	1662	1497
35°	1626	1536	1384
40°	1533	1400	1260
45°	1446	1294	1139
50°	1338	1201	1016
55°	1238	1088	910
60°	1134	972	815
65°	998	851	722
70°	822	745	613
75°	653	571	598
80°	439	411	384
85°	273	327	383

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1446 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.6	4.7
10°-20°	391.3	13.0
20°-30°	541.7	18.0
30°-40°	577.7	19.2
40°-50°	527.0	17.5
50°-60°	412.9	13.7
60°-70°	269.1	8.9
70°-80°	119.2	4.0
80°-90°	25.6	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°	1075.6	35.8
0°-40°	1653.3	55.0
0°-60°	2593.1	86.2
0°-90°	3007.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3007.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1532	1532	1532	1532	1532	
5°	1505	1503	1503	1502	1502	143
15°	1408	1408	1394	1379	1374	396
25°	1220	1213	1194	1151	1119	560
35°	990	983	935	864	843	619
45°	760	744	680	623	598	585
55°	528	512	464	409	388	473
65°	313	296	267	273	227	309
75°	126	117	110	104	115	135
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1531.7	1531.7	1531.7	1531.7	1531.7
2.5°	1521.1	1521.1	1521.1	1519.3	1519.3
5°	1505.2	1503.4	1503.4	1501.6	1501.6
7.5°	1492.8	1491.0	1489.2	1487.5	1483.9
10°	1475.1	1475.1	1473.3	1464.4	1462.7
12.5°	1446.7	1445.0	1437.9	1425.5	1421.9
15°	1407.8	1407.8	1393.6	1379.4	1374.1
17.5°	1365.3	1363.5	1345.8	1331.6	1324.5
20°	1319.2	1315.7	1298.0	1275.0	1262.6
22.5°	1267.9	1267.9	1246.6	1216.5	1204.1
25°	1220.1	1213.0	1193.5	1151.0	1119.1
27.5°	1165.2	1154.5	1133.3	1073.1	1035.9
30°	1105.0	1099.7	1069.6	991.6	963.3
32.5°	1048.3	1039.4	1007.6	926.1	903.1
35°	989.9	982.8	935.0	864.1	842.9
37.5°	931.4	922.6	862.4	805.7	779.1
40°	873.0	862.4	796.9	745.5	717.2
42.5°	818.1	803.9	740.2	685.3	653.4
45°	759.7	743.7	680.0	623.3	598.5
47.5°	701.2	687.1	628.6	570.2	541.9
50°	639.3	626.9	573.7	515.3	485.2
52.5°	587.9	568.4	517.1	458.6	433.8
55°	527.7	511.8	463.9	409.1	387.8
57.5°	472.8	456.9	412.6	361.2	343.5
60°	421.4	398.4	361.2	317.0	302.8
62.5°	364.8	347.1	315.2	278.0	295.7
65°	313.4	295.7	267.4	272.7	226.7
67.5°	256.8	247.9	223.1	198.3	191.2
70°	209.0	198.3	189.5	162.9	155.8
72.5°	166.5	155.8	143.4	129.3	124.0
75°	125.7	116.9	109.8	104.5	115.1
77.5°	86.8	83.2	77.9	72.6	70.8
80°	56.7	54.9	53.1	51.4	49.6
82.5°	33.6	33.6	33.6	33.6	33.6
85°	17.7	19.5	21.2	23.0	24.8
87.5°	10.6	10.6	12.4	14.2	15.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)