

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: P590180

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-81-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590180
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2HI-40-UNV-81-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4389.0 lumens
Efficiency: N/A
Efficacy: 101.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

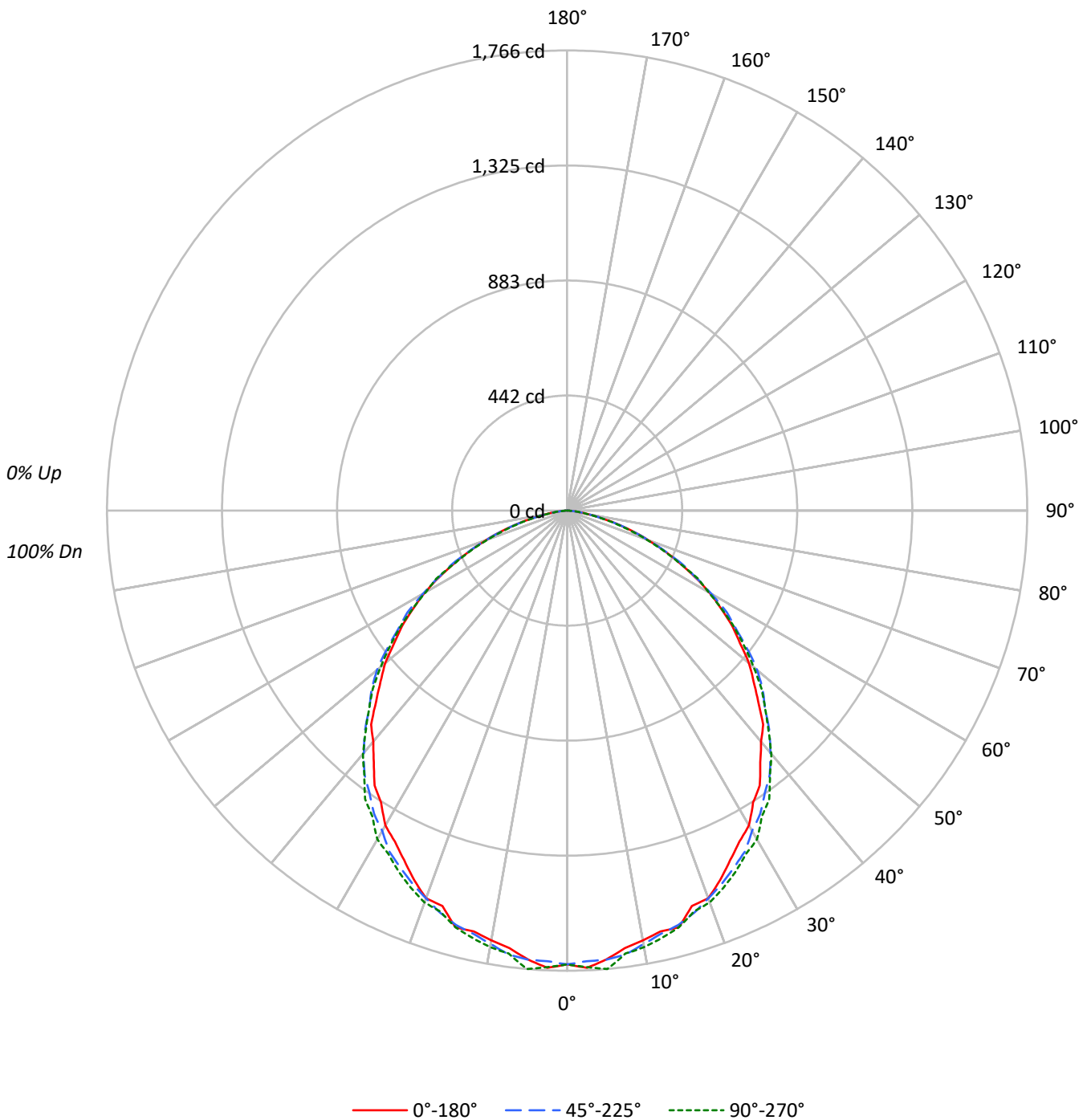
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4686	4686	4686
5°	4671	4673	4771
10°	4576	4616	4649
15°	4612	4587	4613
20°	4534	4534	4582
25°	4395	4491	4540
30°	4335	4411	4528
35°	4232	4343	4441
40°	4068	4264	4282
45°	3945	4085	4091
50°	3815	3988	3911
55°	3635	3706	3680
60°	3399	3433	3371
65°	3031	3108	3009
70°	2600	2610	2537
75°	2060	2054	1975
80°	1379	1342	1289
85°	750	744	695

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4190 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.8	3.7
10°-20°	464.3	10.6
20°-30°	695.5	15.8
30°-40°	824.4	18.8
40°-50°	825.9	18.8
50°-60°	701.0	16.0
60°-70°	472.6	10.8
70°-80°	207.7	4.7
80°-90°	33.8	0.8
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°	1323.6	30.2
0°-40°	2148.0	48.9
0°-60°	3674.9	83.7
0°-90°	4389.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4389.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1741	1741	1741	1741	1741	
5°	1729	1725	1730	1725	1766	163
15°	1656	1636	1647	1655	1656	461
25°	1480	1488	1512	1532	1529	684
35°	1288	1292	1322	1353	1352	800
45°	1036	1056	1073	1101	1075	802
55°	775	770	790	784	784	689
65°	476	470	488	470	473	473
75°	198	194	198	184	190	212
85°	24	24	24	23	22	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1741.4	1741.4	1741.4	1741.4	1741.4
2.5°	1756.5	1743.2	1730.9	1745.3	1754.0
5°	1729.1	1725.0	1729.8	1724.6	1766.2
7.5°	1693.6	1709.1	1718.1	1712.4	1714.9
10°	1674.7	1669.3	1689.3	1703.2	1701.2
12.5°	1654.4	1662.5	1663.6	1678.7	1680.1
15°	1655.6	1636.4	1646.6	1655.1	1655.8
17.5°	1591.2	1611.9	1618.9	1638.5	1614.2
20°	1583.4	1568.3	1583.4	1603.4	1600.2
22.5°	1535.0	1518.2	1550.5	1568.3	1567.2
25°	1480.2	1488.3	1512.5	1532.3	1529.2
27.5°	1432.1	1441.5	1476.1	1503.3	1485.8
30°	1395.0	1390.2	1419.5	1443.7	1457.2
32.5°	1328.6	1345.7	1379.9	1403.9	1391.1
35°	1288.4	1292.2	1322.1	1352.7	1351.8
37.5°	1218.0	1235.8	1277.8	1286.4	1278.5
40°	1158.0	1175.7	1213.7	1222.9	1219.1
42.5°	1113.7	1116.8	1149.4	1160.0	1143.1
45°	1036.5	1055.9	1073.4	1101.1	1075.0
47.5°	970.9	979.9	1017.7	1025.1	1011.4
50°	911.3	914.5	952.5	943.2	934.2
52.5°	836.4	849.7	871.1	869.3	858.7
55°	774.8	769.7	789.9	784.5	784.3
57.5°	700.8	709.8	726.5	717.9	704.2
60°	631.6	631.8	637.9	628.2	626.4
62.5°	554.5	557.2	558.5	546.6	565.9
65°	476.0	469.7	488.1	469.5	472.6
67.5°	403.8	407.0	405.2	393.5	398.0
70°	330.5	334.6	331.7	318.4	322.4
72.5°	263.5	258.6	261.7	245.1	252.7
75°	198.1	194.0	197.6	183.7	190.0
77.5°	134.9	138.1	135.8	128.4	132.7
80°	89.0	86.6	86.6	82.3	83.2
82.5°	51.9	49.5	48.8	47.4	49.5
85°	24.3	23.6	24.1	23.4	22.5
87.5°	8.8	9.0	9.0	8.5	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)