

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: P590179

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-81-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590179
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-81-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 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: 4552.0 lumens
Efficiency: N/A
Efficacy: 105.4 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

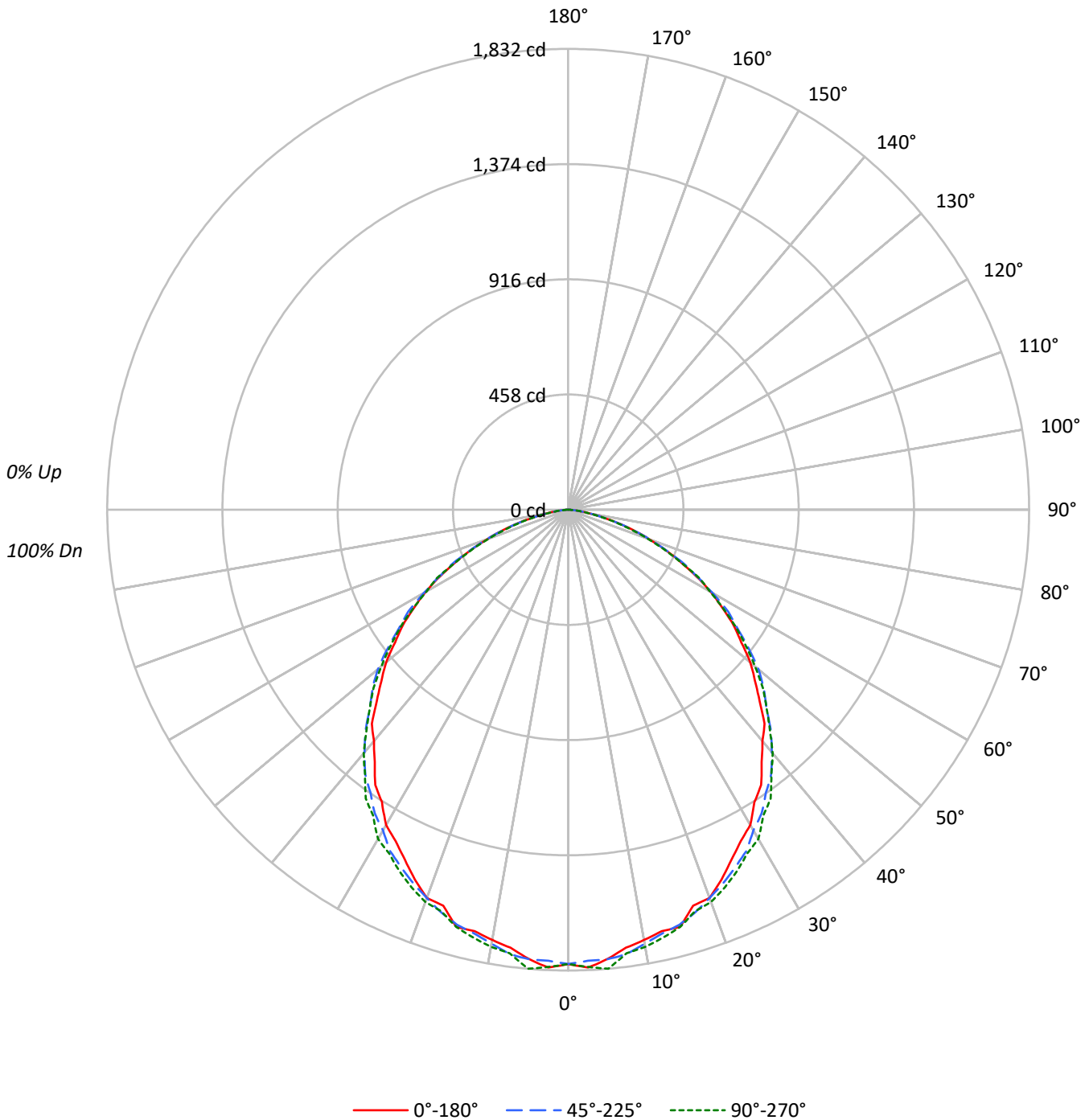
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4860	4860	4860
5°	4844	4846	4948
10°	4746	4787	4821
15°	4783	4757	4784
20°	4703	4703	4753
25°	4558	4658	4709
30°	4496	4575	4696
35°	4390	4504	4606
40°	4219	4422	4442
45°	4091	4237	4243
50°	3957	4135	4056
55°	3770	3843	3816
60°	3526	3561	3497
65°	3144	3224	3121
70°	2697	2707	2631
75°	2136	2131	2049
80°	1430	1392	1337
85°	778	772	719

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4346 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	169.9	3.7
10°-20°	481.5	10.6
20°-30°	721.4	15.8
30°-40°	855.0	18.8
40°-50°	856.6	18.8
50°-60°	727.1	16.0
60°-70°	490.2	10.8
70°-80°	215.4	4.7
80°-90°	35.0	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°	1372.8	30.2
0°-40°	2227.8	48.9
0°-60°	3811.4	83.7
0°-90°	4552.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4552.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1806	1806	1806	1806	1806	
5°	1793	1789	1794	1789	1832	169
15°	1717	1697	1708	1717	1717	478
25°	1535	1544	1569	1589	1586	710
35°	1336	1340	1371	1403	1402	830
45°	1075	1095	1113	1142	1115	832
55°	804	798	819	814	813	715
65°	494	487	506	487	490	491
75°	205	201	205	190	197	220
85°	25	24	25	24	23	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1806.1	1806.1	1806.1	1806.1	1806.1
2.5°	1821.7	1808.0	1795.2	1810.1	1819.2
5°	1793.3	1789.1	1794.0	1788.6	1831.8
7.5°	1756.4	1772.5	1781.9	1776.0	1778.6
10°	1736.9	1731.3	1752.0	1766.5	1764.4
12.5°	1715.9	1724.3	1725.4	1741.1	1742.5
15°	1717.0	1697.2	1707.7	1716.6	1717.3
17.5°	1650.3	1671.8	1679.0	1699.3	1674.1
20°	1642.2	1626.6	1642.2	1662.9	1659.7
22.5°	1592.0	1574.6	1608.1	1626.6	1625.4
25°	1535.1	1543.5	1568.7	1589.2	1586.0
27.5°	1485.2	1495.0	1530.9	1559.2	1541.0
30°	1446.8	1441.9	1472.2	1497.4	1511.4
32.5°	1378.0	1395.7	1431.1	1456.1	1442.8
35°	1336.2	1340.2	1371.2	1402.9	1402.0
37.5°	1263.2	1281.7	1325.3	1334.1	1326.0
40°	1201.0	1219.4	1258.8	1268.4	1264.4
42.5°	1155.0	1158.3	1192.1	1203.1	1185.6
45°	1075.0	1095.1	1113.3	1142.0	1114.9
47.5°	1006.9	1016.3	1055.5	1063.1	1048.9
50°	945.2	948.4	987.8	978.3	968.9
52.5°	867.5	881.3	903.4	901.5	890.6
55°	803.6	798.2	819.2	813.6	813.4
57.5°	726.9	736.2	753.5	744.6	730.4
60°	655.1	655.3	661.6	651.6	649.7
62.5°	575.1	577.9	579.3	566.9	587.0
65°	493.7	487.2	506.3	486.9	490.2
67.5°	418.8	422.1	420.2	408.1	412.8
70°	342.8	347.0	344.0	330.2	334.4
72.5°	273.3	268.2	271.4	254.2	262.1
75°	205.4	201.2	205.0	190.5	197.1
77.5°	139.9	143.2	140.9	133.2	137.6
80°	92.3	89.8	89.8	85.4	86.3
82.5°	53.9	51.3	50.6	49.2	51.3
85°	25.2	24.5	25.0	24.3	23.3
87.5°	9.1	9.3	9.3	8.9	8.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)