

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: P590224

Luminaire Tested: FSR-24-2-LD4-2HI-50-UNV-93-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590224
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-50-UNV-93-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4619.0 lumens
Efficiency: N/A
Efficacy: 106.9 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

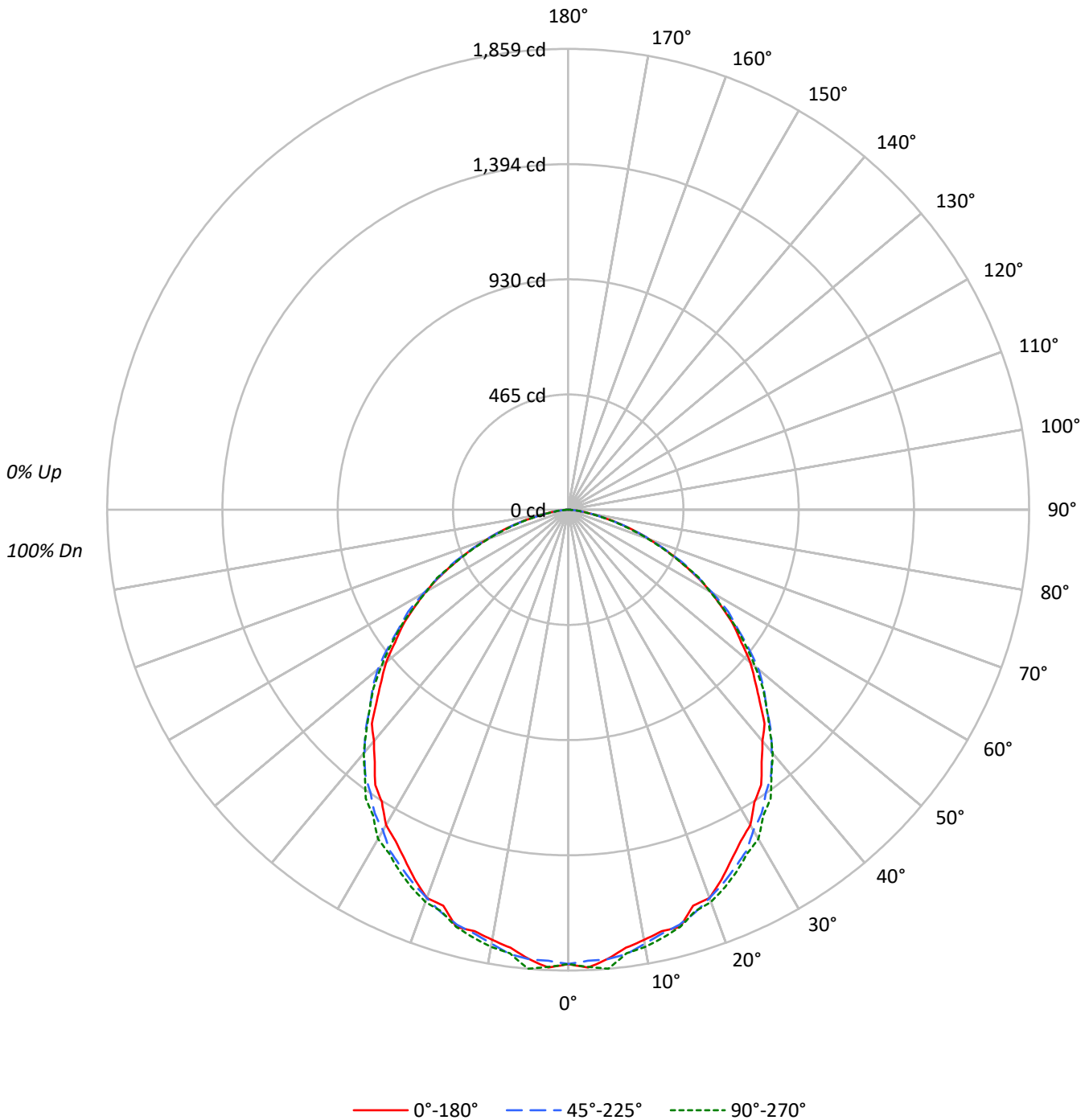
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					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°	4932	4932	4932
5°	4915	4917	5021
10°	4816	4858	4892
15°	4854	4827	4854
20°	4772	4772	4823
25°	4625	4726	4778
30°	4562	4642	4765
35°	4454	4571	4673
40°	4281	4487	4507
45°	4152	4299	4305
50°	4015	4196	4116
55°	3826	3900	3872
60°	3577	3613	3548
65°	3189	3271	3167
70°	2736	2746	2670
75°	2168	2163	2079
80°	1452	1412	1358
85°	790	781	732

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4410 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.4	3.7
10°-20°	488.6	10.6
20°-30°	732.0	15.8
30°-40°	867.6	18.8
40°-50°	869.2	18.8
50°-60°	737.8	16.0
60°-70°	497.4	10.8
70°-80°	218.6	4.7
80°-90°	35.5	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°	1393.0	30.2
0°-40°	2260.5	48.9
0°-60°	3867.5	83.7
0°-90°	4619.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4619.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1820	1815	1820	1815	1859	172
15°	1742	1722	1733	1742	1742	485
25°	1558	1566	1592	1613	1609	720
35°	1356	1360	1391	1424	1423	842
45°	1091	1111	1130	1159	1131	844
55°	815	810	831	826	825	725
65°	501	494	514	494	497	498
75°	208	204	208	193	200	223
85°	26	25	25	25	24	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1832.7	1832.7	1832.7	1832.7	1832.7
2.5°	1848.6	1834.6	1821.6	1836.7	1846.0
5°	1819.7	1815.4	1820.4	1815.0	1858.7
7.5°	1782.3	1798.6	1808.1	1802.2	1804.8
10°	1762.4	1756.7	1777.8	1792.5	1790.3
12.5°	1741.1	1749.6	1750.8	1766.7	1768.1
15°	1742.3	1722.2	1732.8	1741.8	1742.5
17.5°	1674.6	1696.4	1703.7	1724.3	1698.8
20°	1666.4	1650.5	1666.4	1687.4	1684.1
22.5°	1615.5	1597.7	1631.8	1650.5	1649.3
25°	1557.7	1566.3	1591.8	1612.6	1609.3
27.5°	1507.1	1517.0	1553.5	1582.1	1563.7
30°	1468.1	1463.1	1493.8	1519.4	1533.6
32.5°	1398.2	1416.2	1452.2	1477.5	1464.0
35°	1355.9	1359.9	1391.4	1423.6	1422.6
37.5°	1281.8	1300.5	1344.8	1353.8	1345.5
40°	1218.6	1237.3	1277.3	1287.0	1283.0
42.5°	1172.0	1175.3	1209.7	1220.8	1203.0
45°	1090.9	1111.2	1129.7	1158.8	1131.3
47.5°	1021.8	1031.2	1071.0	1078.8	1064.4
50°	959.1	962.4	1002.4	992.7	983.2
52.5°	880.3	894.2	916.7	914.8	903.7
55°	815.4	810.0	831.3	825.6	825.4
57.5°	737.6	747.0	764.6	755.6	741.1
60°	664.7	664.9	671.3	661.1	659.3
62.5°	583.5	586.4	587.8	575.2	595.6
65°	500.9	494.3	513.7	494.1	497.4
67.5°	425.0	428.3	426.4	414.1	418.8
70°	347.8	352.1	349.0	335.1	339.3
72.5°	277.3	272.1	275.4	257.9	266.0
75°	208.5	204.2	208.0	193.3	200.0
77.5°	142.0	145.3	142.9	135.1	139.6
80°	93.7	91.1	91.1	86.6	87.6
82.5°	54.7	52.1	51.3	49.9	52.1
85°	25.6	24.8	25.3	24.6	23.7
87.5°	9.2	9.5	9.5	9.0	8.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)