

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: P590163

Luminaire Tested: FSR-24-2-LD4-2HI-35-UNV-93-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590163
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-35-UNV-93-96-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4754.0 lumens
Efficiency: N/A
Efficacy: 110.0 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

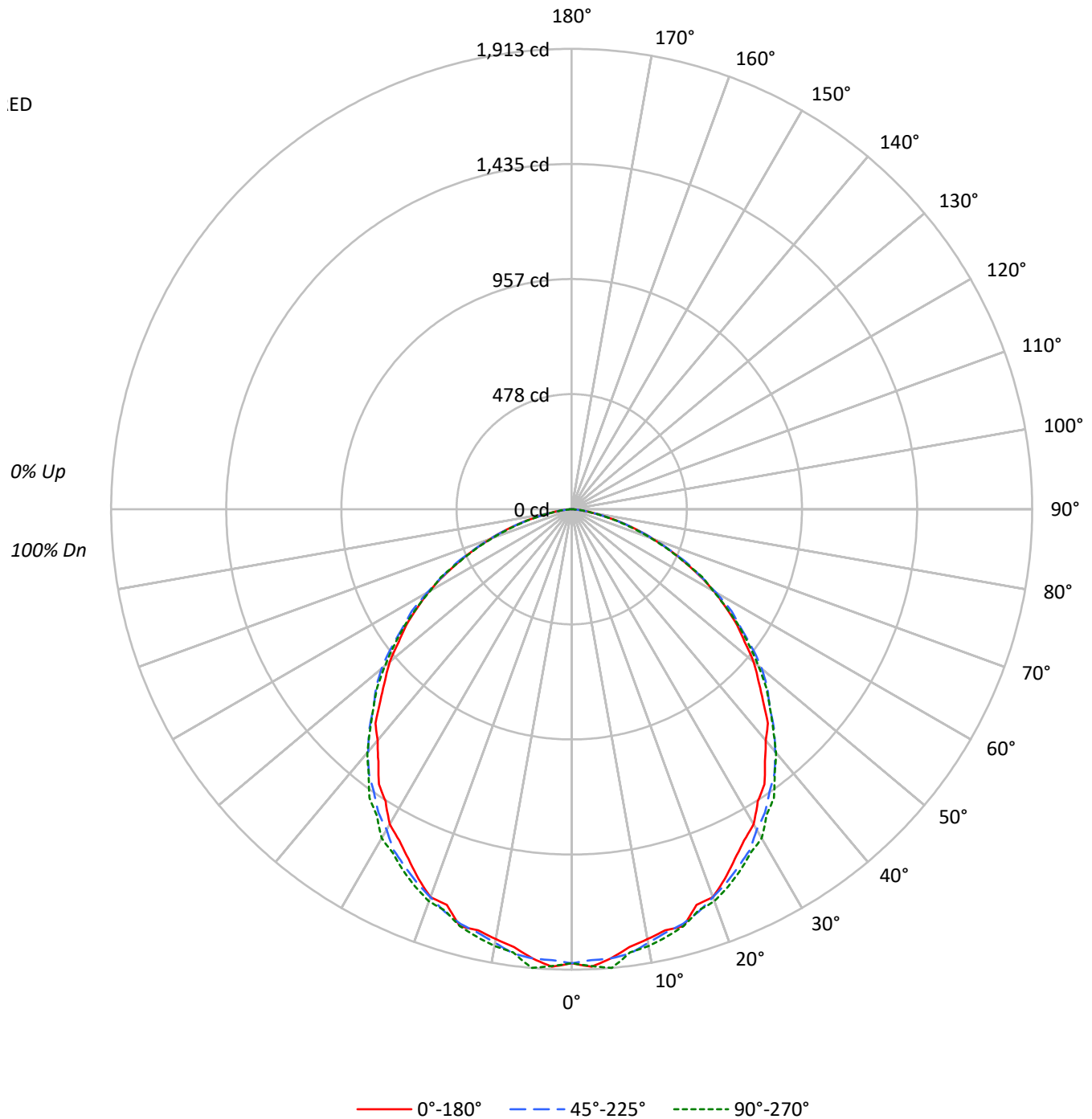
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5076	5076	5076
5°	5059	5061	5168
10°	4956	5000	5035
15°	4996	4969	4997
20°	4911	4911	4964
25°	4760	4864	4918
30°	4695	4777	4905
35°	4584	4705	4810
40°	4406	4618	4639
45°	4273	4425	4431
50°	4132	4319	4236
55°	3938	4014	3985
60°	3682	3718	3652
65°	3283	3366	3259
70°	2817	2826	2747
75°	2231	2226	2140
80°	1494	1454	1396
85°	812	806	753

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4539 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.4	3.7
10°-20°	502.9	10.6
20°-30°	753.4	15.8
30°-40°	892.9	18.8
40°-50°	894.6	18.8
50°-60°	759.4	16.0
60°-70°	512.0	10.8
70°-80°	225.0	4.7
80°-90°	36.6	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°	1433.7	30.2
0°-40°	2326.6	48.9
0°-60°	3980.5	83.7
0°-90°	4754.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4754.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1886	1886	1886	1886	1886	
5°	1873	1868	1874	1868	1913	177
15°	1793	1772	1784	1793	1794	500
25°	1603	1612	1638	1660	1656	741
35°	1396	1400	1432	1465	1464	866
45°	1123	1144	1163	1193	1164	869
55°	839	834	856	850	850	747
65°	516	509	529	508	512	513
75°	215	210	214	199	206	230
85°	26	26	26	25	24	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1886.3	1886.3	1886.3	1886.3	1886.3
2.5°	1902.6	1888.2	1874.8	1890.4	1899.9
5°	1872.9	1868.5	1873.6	1868.0	1913.1
7.5°	1834.4	1851.2	1860.9	1854.8	1857.5
10°	1813.9	1808.1	1829.8	1844.9	1842.7
12.5°	1792.0	1800.8	1802.0	1818.3	1819.8
15°	1793.2	1772.5	1783.5	1792.7	1793.5
17.5°	1723.6	1746.0	1753.5	1774.7	1748.4
20°	1715.1	1698.7	1715.1	1736.7	1733.3
22.5°	1662.7	1644.4	1679.5	1698.7	1697.5
25°	1603.3	1612.0	1638.3	1659.8	1656.4
27.5°	1551.1	1561.4	1598.9	1628.4	1609.4
30°	1511.0	1505.8	1537.5	1563.8	1578.4
32.5°	1439.1	1457.6	1494.6	1520.7	1506.8
35°	1395.5	1399.7	1432.1	1465.2	1464.2
37.5°	1319.3	1338.5	1384.1	1393.3	1384.8
40°	1254.3	1273.5	1314.7	1324.6	1320.5
42.5°	1206.3	1209.7	1245.0	1256.5	1238.2
45°	1122.7	1143.7	1162.7	1192.6	1164.4
47.5°	1051.6	1061.4	1102.3	1110.3	1095.5
50°	987.1	990.5	1031.7	1021.7	1011.9
52.5°	906.0	920.4	943.5	941.6	930.1
55°	839.3	833.7	855.6	849.7	849.5
57.5°	759.1	768.9	786.9	777.6	762.8
60°	684.1	684.4	690.9	680.5	678.5
62.5°	600.6	603.5	605.0	592.1	613.0
65°	515.6	508.8	528.7	508.5	511.9
67.5°	437.4	440.8	438.9	426.2	431.1
70°	358.0	362.4	359.2	344.9	349.2
72.5°	285.4	280.1	283.5	265.5	273.7
75°	214.6	210.2	214.1	199.0	205.8
77.5°	146.1	149.5	147.1	139.1	143.7
80°	96.4	93.8	93.8	89.1	90.1
82.5°	56.3	53.6	52.8	51.4	53.6
85°	26.3	25.6	26.1	25.3	24.4
87.5°	9.5	9.7	9.7	9.3	8.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)