

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: P590189

Luminaire Tested: FSR-24-2-LD4-2HI-40-UNV-93-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590189
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-93-84-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4844.0 lumens
Efficiency: N/A
Efficacy: 112.1 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

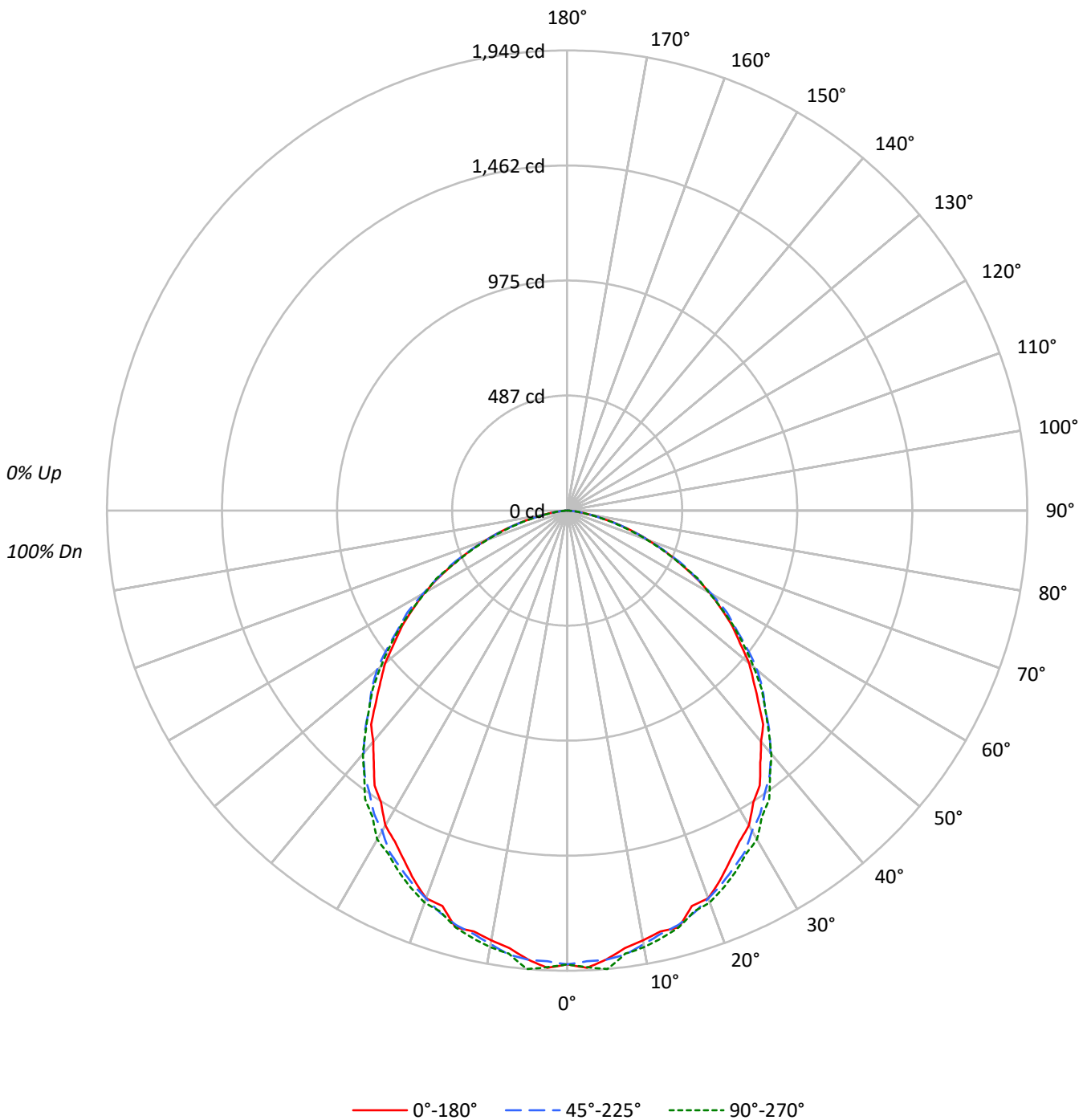
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5172	5172	5172
5°	5155	5157	5266
10°	5050	5094	5131
15°	5090	5063	5091
20°	5004	5004	5058
25°	4850	4957	5011
30°	4784	4868	4997
35°	4671	4794	4901
40°	4489	4706	4727
45°	4354	4509	4515
50°	4211	4401	4317
55°	4012	4090	4061
60°	3752	3789	3721
65°	3345	3430	3321
70°	2870	2880	2800
75°	2273	2268	2180
80°	1523	1480	1423
85°	827	821	766

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4625 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.8	3.7
10°-20°	512.4	10.6
20°-30°	767.7	15.8
30°-40°	909.8	18.8
40°-50°	911.5	18.8
50°-60°	773.7	16.0
60°-70°	521.6	10.8
70°-80°	229.2	4.7
80°-90°	37.2	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°	1460.8	30.2
0°-40°	2370.7	48.9
0°-60°	4055.9	83.7
0°-90°	4844.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4844.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1922	1922	1922	1922	1922	
5°	1908	1904	1909	1903	1949	180
15°	1827	1806	1817	1827	1827	509
25°	1634	1643	1669	1691	1688	755
35°	1422	1426	1459	1493	1492	883
45°	1144	1165	1185	1215	1186	885
55°	855	849	872	866	866	761
65°	525	518	539	518	522	522
75°	219	214	218	203	210	234
85°	27	26	27	26	25	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1922.0	1922.0	1922.0	1922.0	1922.0
2.5°	1938.6	1924.0	1910.3	1926.2	1935.9
5°	1908.3	1903.9	1909.1	1903.4	1949.3
7.5°	1869.1	1886.2	1896.2	1890.0	1892.7
10°	1848.3	1842.3	1864.4	1879.8	1877.6
12.5°	1825.9	1834.9	1836.1	1852.7	1854.2
15°	1827.2	1806.1	1817.3	1826.7	1827.4
17.5°	1756.2	1779.0	1786.7	1808.3	1781.5
20°	1747.5	1730.9	1747.5	1769.6	1766.1
22.5°	1694.2	1675.6	1711.3	1730.9	1729.7
25°	1633.6	1642.6	1669.4	1691.2	1687.7
27.5°	1580.5	1590.9	1629.2	1659.2	1639.8
30°	1539.6	1534.4	1566.6	1593.4	1608.3
32.5°	1466.4	1485.2	1522.9	1549.5	1535.3
35°	1421.9	1426.2	1459.2	1492.9	1491.9
37.5°	1344.3	1363.9	1410.3	1419.7	1411.0
40°	1278.0	1297.6	1339.6	1349.7	1345.5
42.5°	1229.1	1232.6	1268.6	1280.2	1261.6
45°	1144.0	1165.3	1184.7	1215.2	1186.4
47.5°	1071.5	1081.5	1123.2	1131.3	1116.2
50°	1005.8	1009.3	1051.2	1041.0	1031.1
52.5°	923.1	937.8	961.4	959.4	947.7
55°	855.1	849.4	871.8	865.8	865.6
57.5°	773.5	783.4	801.8	792.4	777.2
60°	697.1	697.3	704.0	693.4	691.4
62.5°	612.0	614.9	616.4	603.3	624.6
65°	525.3	518.4	538.7	518.2	521.6
67.5°	445.7	449.2	447.2	434.3	439.2
70°	364.8	369.3	366.0	351.4	355.9
72.5°	290.8	285.4	288.9	270.5	278.9
75°	218.6	214.2	218.1	202.7	209.7
77.5°	148.9	152.4	149.9	141.7	146.4
80°	98.3	95.5	95.5	90.8	91.8
82.5°	57.3	54.6	53.9	52.4	54.6
85°	26.8	26.1	26.6	25.8	24.8
87.5°	9.7	9.9	9.9	9.4	8.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)