

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: P590881

Luminaire Tested: FSR-24-2-LD4-4LO-50-UNV-81-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590881
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-LD4-4LO-50-UNV-81-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

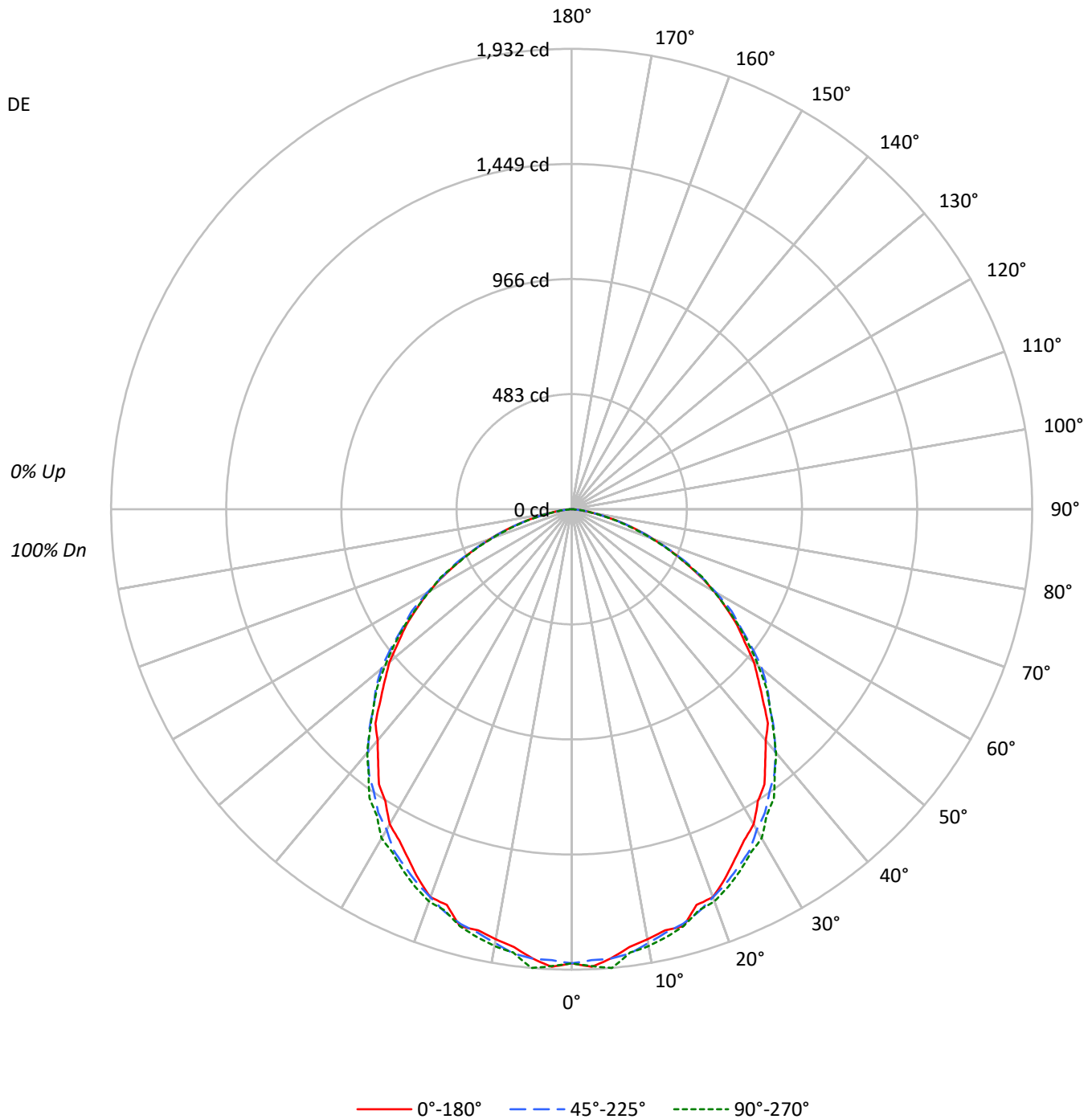
Lumens per Lamp: N/A
Luminaire Lumens: 4802.0 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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																		
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°	5127	5127	5127
5°	5110	5112	5220
10°	5006	5050	5086
15°	5046	5019	5047
20°	4961	4961	5014
25°	4809	4914	4968
30°	4742	4826	4954
35°	4631	4752	4859
40°	4450	4665	4685
45°	4316	4469	4476
50°	4174	4363	4279
55°	3977	4054	4026
60°	3719	3756	3689
65°	3316	3401	3293
70°	2845	2855	2776
75°	2253	2248	2162
80°	1509	1468	1410
85°	821	812	760

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 4585 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.2	3.7
10°-20°	507.9	10.6
20°-30°	761.0	15.8
30°-40°	901.9	18.8
40°-50°	903.6	18.8
50°-60°	767.0	16.0
60°-70°	517.1	10.8
70°-80°	227.2	4.7
80°-90°	36.9	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°	1448.2	30.2
0°-40°	2350.1	48.9
0°-60°	4020.7	83.7
0°-90°	4802.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4802.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1905	1905	1905	1905	1905	
5°	1892	1887	1892	1887	1932	178
15°	1811	1790	1802	1811	1812	505
25°	1620	1628	1655	1676	1673	749
35°	1410	1414	1446	1480	1479	875
45°	1134	1155	1174	1205	1176	877
55°	848	842	864	858	858	754
65°	521	514	534	514	517	518
75°	217	212	216	201	208	232
85°	27	26	26	26	25	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1905.3	1905.3	1905.3	1905.3	1905.3
2.5°	1921.8	1907.3	1893.8	1909.5	1919.1
5°	1891.8	1887.4	1892.5	1886.9	1932.4
7.5°	1852.9	1869.9	1879.7	1873.6	1876.3
10°	1832.2	1826.3	1848.2	1863.5	1861.3
12.5°	1810.1	1819.0	1820.2	1836.7	1838.2
15°	1811.3	1790.4	1801.5	1810.8	1811.6
17.5°	1741.0	1763.6	1771.2	1792.6	1766.1
20°	1732.4	1715.9	1732.4	1754.3	1750.8
22.5°	1679.5	1661.0	1696.5	1715.9	1714.7
25°	1619.5	1628.3	1654.9	1676.5	1673.1
27.5°	1566.8	1577.1	1615.0	1644.8	1625.6
30°	1526.2	1521.1	1553.0	1579.6	1594.4
32.5°	1453.6	1472.3	1509.7	1536.1	1522.0
35°	1409.6	1413.8	1446.5	1480.0	1479.0
37.5°	1332.6	1352.0	1398.0	1407.4	1398.8
40°	1266.9	1286.4	1327.9	1338.0	1333.8
42.5°	1218.5	1221.9	1257.6	1269.1	1250.7
45°	1134.1	1155.2	1174.4	1204.7	1176.2
47.5°	1062.3	1072.1	1113.4	1121.5	1106.5
50°	997.1	1000.5	1042.1	1032.0	1022.2
52.5°	915.1	929.7	953.0	951.1	939.5
55°	847.7	842.1	864.2	858.3	858.1
57.5°	766.8	776.6	794.8	785.5	770.5
60°	691.0	691.3	697.9	687.3	685.4
62.5°	606.6	609.6	611.1	598.0	619.2
65°	520.8	513.9	534.1	513.7	517.1
67.5°	441.8	445.3	443.3	430.5	435.4
70°	361.6	366.1	362.9	348.3	352.8
72.5°	288.3	282.9	286.4	268.1	276.5
75°	216.7	212.3	216.2	201.0	207.9
77.5°	147.6	151.0	148.6	140.5	145.1
80°	97.4	94.7	94.7	90.0	91.0
82.5°	56.8	54.1	53.4	51.9	54.1
85°	26.6	25.8	26.3	25.6	24.6
87.5°	9.6	9.8	9.8	9.3	8.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)