

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: P590859

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-82-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590859
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-40-UNV-82-96-EDD
Description: 2X2 FSR TROFFER WITH .187 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: 5426.0 lumens
Efficiency: N/A
Efficacy: 115.9 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

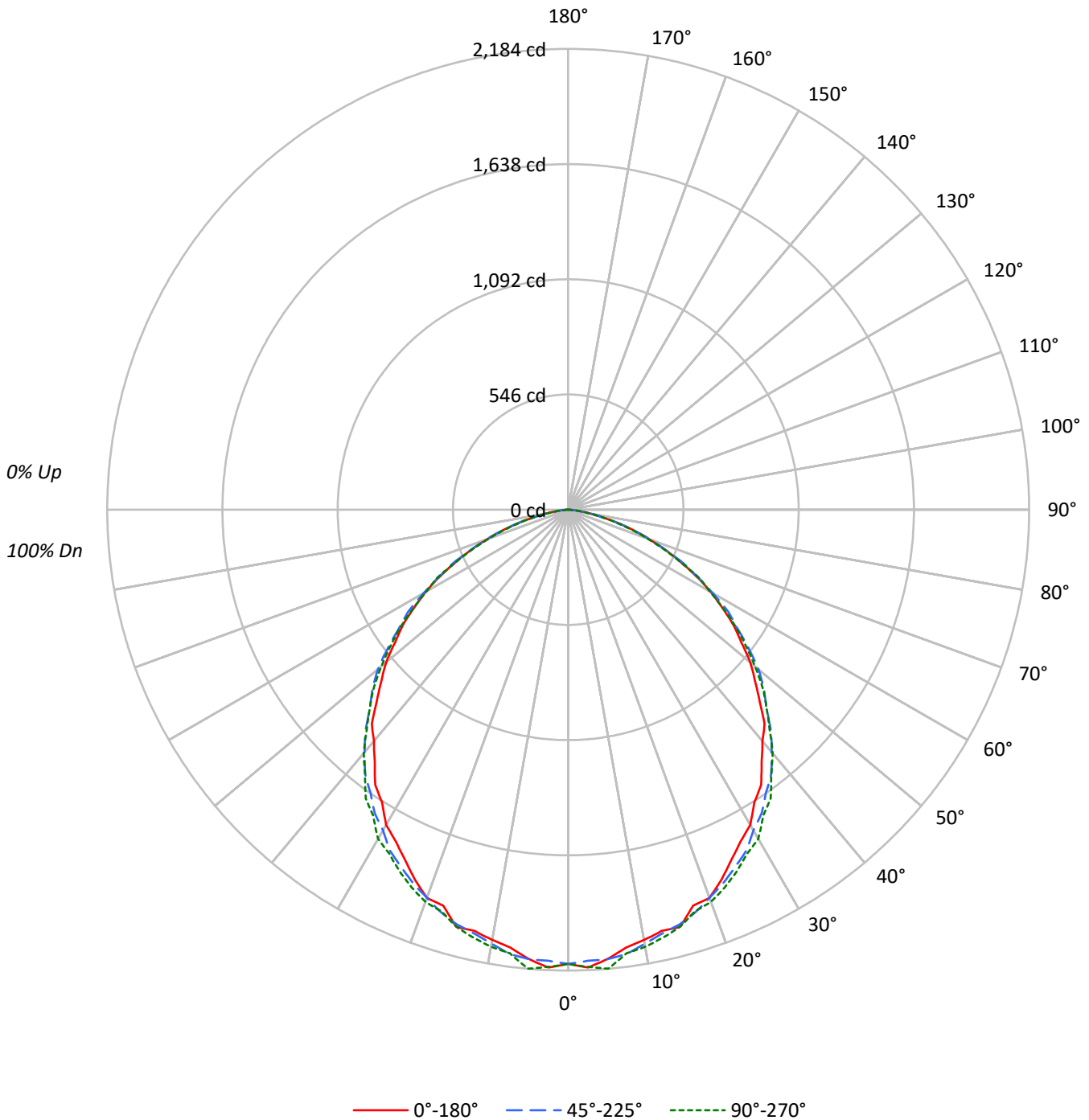
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5793	5793	5793
5°	5774	5776	5898
10°	5657	5707	5747
15°	5702	5671	5703
20°	5606	5606	5665
25°	5433	5552	5613
30°	5358	5453	5598
35°	5232	5369	5490
40°	5029	5271	5295
45°	4877	5050	5058
50°	4716	4930	4835
55°	4494	4581	4549
60°	4202	4244	4168
65°	3747	3843	3720
70°	3215	3226	3136
75°	2546	2540	2442
80°	1706	1658	1593
85°	926	917	858

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5180 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.5	3.7
10°-20°	573.9	10.6
20°-30°	859.9	15.8
30°-40°	1019.1	18.8
40°-50°	1021.0	18.8
50°-60°	866.7	16.0
60°-70°	584.3	10.8
70°-80°	256.8	4.7
80°-90°	41.7	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°	1636.3	30.2
0°-40°	2655.5	48.9
0°-60°	4543.2	83.7
0°-90°	5426.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5426.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2153	2153	2153	2153	2153	
5°	2138	2133	2138	2132	2184	202
15°	2047	2023	2036	2046	2047	570
25°	1830	1840	1870	1894	1890	846
35°	1593	1598	1634	1672	1671	989
45°	1282	1305	1327	1361	1329	991
55°	958	952	976	970	970	852
65°	588	581	604	580	584	585
75°	245	240	244	227	235	262
85°	30	29	30	29	28	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2152.9	2152.9	2152.9	2152.9	2152.9
2.5°	2171.5	2155.1	2139.8	2157.6	2168.5
5°	2137.6	2132.6	2138.4	2132.1	2183.5
7.5°	2093.7	2112.9	2124.0	2117.0	2120.1
10°	2070.3	2063.7	2088.4	2105.6	2103.1
12.5°	2045.3	2055.3	2056.7	2075.3	2077.0
15°	2046.7	2023.1	2035.6	2046.2	2047.0
17.5°	1967.2	1992.8	2001.4	2025.6	1995.6
20°	1957.5	1938.9	1957.5	1982.2	1978.3
22.5°	1897.7	1876.9	1916.9	1938.9	1937.5
25°	1829.9	1839.9	1869.9	1894.4	1890.5
27.5°	1770.4	1782.1	1824.9	1858.5	1836.8
30°	1724.5	1718.7	1754.8	1784.9	1801.5
32.5°	1642.5	1663.7	1705.9	1735.7	1719.8
35°	1592.8	1597.5	1634.5	1672.3	1671.2
37.5°	1505.8	1527.7	1579.7	1590.3	1580.6
40°	1431.6	1453.5	1500.5	1511.9	1507.2
42.5°	1376.8	1380.7	1421.0	1434.1	1413.2
45°	1281.5	1305.4	1327.0	1361.2	1329.0
47.5°	1200.3	1211.4	1258.1	1267.3	1250.3
50°	1126.6	1130.5	1177.5	1166.1	1155.0
52.5°	1034.1	1050.5	1076.9	1074.6	1061.6
55°	957.9	951.5	976.5	969.8	969.6
57.5°	866.4	877.6	898.1	887.6	870.6
60°	780.8	781.1	788.6	776.7	774.4
62.5°	685.5	688.8	690.5	675.8	699.7
65°	588.5	580.7	603.5	580.4	584.3
67.5°	499.2	503.1	500.9	486.5	492.0
70°	408.6	413.6	410.0	393.6	398.6
72.5°	325.8	319.7	323.6	303.0	312.4
75°	244.9	239.9	244.3	227.1	234.9
77.5°	166.8	170.7	167.9	158.7	164.0
80°	110.1	107.0	107.0	101.7	102.8
82.5°	64.2	61.2	60.3	58.7	61.2
85°	30.0	29.2	29.7	28.9	27.8
87.5°	10.8	11.1	11.1	10.6	10.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)