

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: P590827

Luminaire Tested: FSR-24-2-LD4-4LO-35-UNV-82-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590827
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5373.0 lumens
Efficiency: N/A
Efficacy: 114.8 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

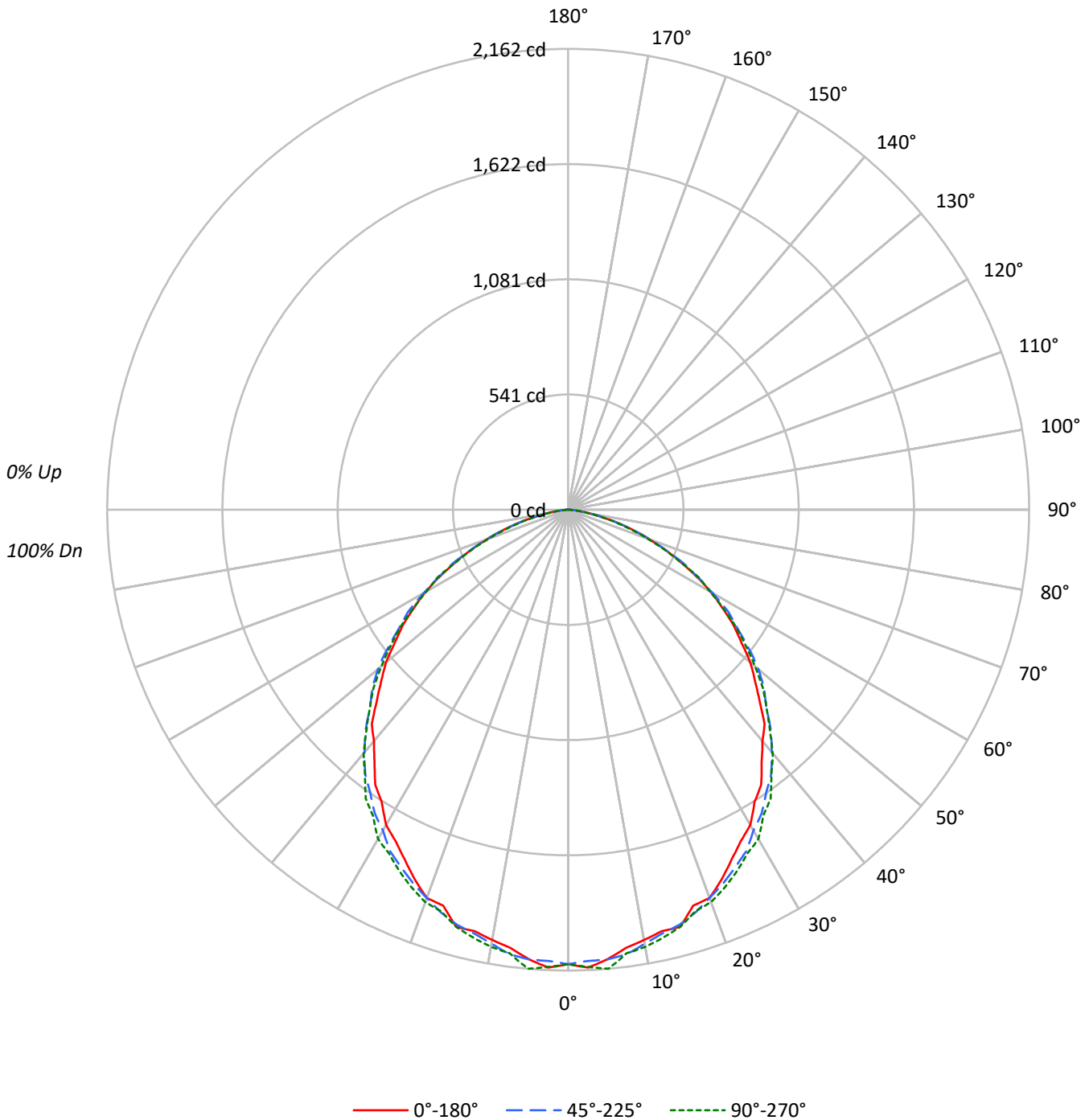
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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°	5737	5737	5737
5°	5718	5720	5840
10°	5602	5651	5691
15°	5646	5616	5647
20°	5551	5551	5610
25°	5380	5498	5558
30°	5306	5400	5543
35°	5181	5317	5436
40°	4980	5219	5243
45°	4829	5001	5008
50°	4670	4881	4788
55°	4450	4537	4504
60°	4161	4203	4127
65°	3710	3805	3684
70°	3183	3194	3105
75°	2521	2516	2418
80°	1689	1643	1578
85°	917	911	849

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5130 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.5	3.7
10°-20°	568.3	10.6
20°-30°	851.5	15.8
30°-40°	1009.2	18.8
40°-50°	1011.1	18.8
50°-60°	858.2	16.0
60°-70°	578.6	10.8
70°-80°	254.2	4.7
80°-90°	41.3	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°	1620.4	30.2
0°-40°	2629.5	48.9
0°-60°	4498.8	83.7
0°-90°	5373.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5373.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2132	2132	2132	2132	2132	
5°	2117	2112	2118	2111	2162	200
15°	2027	2003	2016	2026	2027	565
25°	1812	1822	1852	1876	1872	838
35°	1577	1582	1618	1656	1655	979
45°	1269	1293	1314	1348	1316	982
55°	948	942	967	960	960	844
65°	583	575	598	575	579	580
75°	242	238	242	225	233	260
85°	30	29	30	29	28	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2131.9	2131.9	2131.9	2131.9	2131.9
2.5°	2150.3	2134.1	2118.9	2136.6	2147.3
5°	2116.7	2111.8	2117.6	2111.2	2162.1
7.5°	2073.2	2092.2	2103.2	2096.4	2099.4
10°	2050.1	2043.5	2068.0	2085.1	2082.6
12.5°	2025.3	2035.3	2036.6	2055.1	2056.7
15°	2026.7	2003.3	2015.7	2026.2	2027.0
17.5°	1948.0	1973.3	1981.9	2005.8	1976.1
20°	1938.4	1919.9	1938.4	1962.9	1959.0
22.5°	1879.2	1858.5	1898.2	1919.9	1918.5
25°	1812.0	1821.9	1851.7	1875.9	1872.0
27.5°	1753.1	1764.7	1807.1	1840.4	1818.9
30°	1707.7	1701.9	1737.7	1767.4	1783.9
32.5°	1626.5	1647.4	1689.3	1718.7	1703.0
35°	1577.2	1581.9	1618.5	1656.0	1654.8
37.5°	1491.1	1512.8	1564.3	1574.7	1565.1
40°	1417.6	1439.3	1485.8	1497.1	1492.4
42.5°	1363.4	1367.2	1407.1	1420.1	1399.4
45°	1268.9	1292.6	1314.1	1347.9	1316.0
47.5°	1188.6	1199.6	1245.8	1254.9	1238.1
50°	1115.6	1119.5	1166.0	1154.7	1143.7
52.5°	1024.0	1040.2	1066.3	1064.1	1051.2
55°	948.5	942.2	967.0	960.4	960.1
57.5°	858.0	869.0	889.4	878.9	862.1
60°	773.2	773.5	780.9	769.1	766.9
62.5°	678.8	682.1	683.7	669.2	692.8
65°	582.7	575.0	597.6	574.7	578.6
67.5°	494.4	498.2	496.0	481.7	487.2
70°	404.6	409.6	406.0	389.8	394.7
72.5°	322.6	316.5	320.4	300.0	309.4
75°	242.5	237.5	242.0	224.9	232.6
77.5°	165.2	169.0	166.3	157.2	162.4
80°	109.0	106.0	106.0	100.7	101.8
82.5°	63.6	60.6	59.7	58.1	60.6
85°	29.7	28.9	29.5	28.6	27.5
87.5°	10.7	11.0	11.0	10.5	9.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)