

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: P590855

Luminaire Tested: FSR-24-2-LD4-4LO-40-UNV-82-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590855
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-82-86-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5305.0 lumens
Efficiency: N/A
Efficacy: 113.4 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

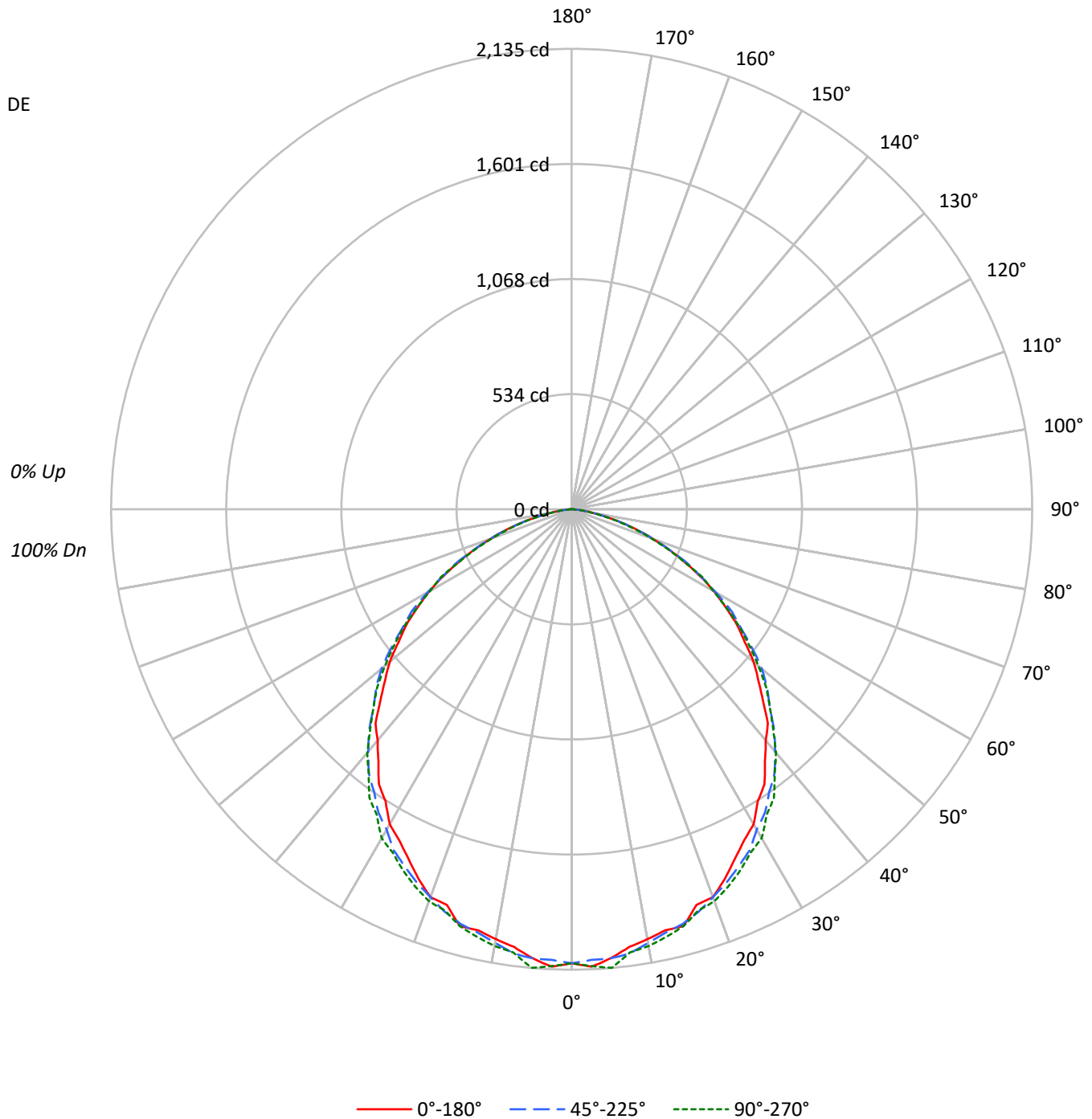
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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													86															
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73													73															
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62													62															
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53													53															
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46													46															
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41													41															
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36													36															
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32													32															
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29													29															
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26													26															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5664	5664	5664
5°	5645	5648	5767
10°	5531	5579	5619
15°	5575	5545	5575
20°	5481	5481	5539
25°	5312	5428	5488
30°	5239	5331	5473
35°	5116	5250	5367
40°	4917	5153	5176
45°	4768	4937	4945
50°	4611	4819	4727
55°	4394	4479	4447
60°	4109	4149	4075
65°	3663	3757	3638
70°	3143	3154	3066
75°	2489	2484	2387
80°	1667	1621	1559
85°	908	898	840

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5065 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.0	3.7
10°-20°	561.1	10.6
20°-30°	840.7	15.8
30°-40°	996.4	18.8
40°-50°	998.3	18.8
50°-60°	847.4	16.0
60°-70°	571.3	10.8
70°-80°	251.0	4.7
80°-90°	40.8	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°	1599.9	30.2
0°-40°	2596.3	48.9
0°-60°	4441.9	83.7
0°-90°	5305.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5305.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2105	2105	2105	2105	2105	
5°	2090	2085	2091	2084	2135	197
15°	2001	1978	1990	2000	2001	558
25°	1789	1799	1828	1852	1848	827
35°	1557	1562	1598	1635	1634	967
45°	1253	1276	1297	1331	1299	969
55°	936	930	955	948	948	833
65°	575	568	590	568	571	572
75°	239	234	239	222	230	257
85°	29	28	29	28	27	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2104.9	2104.9	2104.9	2104.9	2104.9
2.5°	2123.1	2107.1	2092.1	2109.5	2120.1
5°	2089.9	2085.1	2090.8	2084.5	2134.8
7.5°	2047.0	2065.8	2076.6	2069.8	2072.8
10°	2024.2	2017.7	2041.8	2058.7	2056.2
12.5°	1999.7	2009.5	2010.9	2029.1	2030.7
15°	2001.1	1978.0	1990.2	2000.5	2001.3
17.5°	1923.3	1948.3	1956.8	1980.4	1951.1
20°	1913.8	1895.6	1913.8	1938.0	1934.2
22.5°	1855.4	1835.0	1874.2	1895.6	1894.3
25°	1789.1	1798.9	1828.2	1852.1	1848.3
27.5°	1730.9	1742.3	1784.2	1817.1	1795.9
30°	1686.1	1680.4	1715.7	1745.1	1761.4
32.5°	1605.9	1626.6	1667.9	1697.0	1681.5
35°	1557.3	1561.9	1598.0	1635.0	1633.9
37.5°	1472.2	1493.7	1544.5	1554.8	1545.3
40°	1399.6	1421.1	1467.0	1478.2	1473.6
42.5°	1346.1	1349.9	1389.3	1402.1	1381.7
45°	1252.9	1276.3	1297.4	1330.9	1299.4
47.5°	1173.5	1184.4	1230.0	1239.0	1222.4
50°	1101.5	1105.3	1151.2	1140.1	1129.2
52.5°	1011.0	1027.0	1052.9	1050.7	1037.9
55°	936.5	930.3	954.7	948.2	947.9
57.5°	847.1	858.0	878.1	867.8	851.2
60°	763.4	763.7	771.0	759.3	757.2
62.5°	670.2	673.5	675.1	660.7	684.1
65°	575.3	567.7	590.0	567.5	571.3
67.5°	488.1	491.9	489.7	475.6	481.0
70°	399.5	404.4	400.9	384.8	389.7
72.5°	318.5	312.5	316.3	296.2	305.5
75°	239.4	234.5	238.9	222.0	229.6
77.5°	163.1	166.9	164.2	155.2	160.3
80°	107.6	104.6	104.6	99.5	100.6
82.5°	62.8	59.8	59.0	57.3	59.8
85°	29.4	28.5	29.1	28.3	27.2
87.5°	10.6	10.9	10.9	10.3	9.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)