

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: P590655

Luminaire Tested: FSR-24-2-LD4-3STD-40-UNV-81-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590655
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-LD4-3STD-40-UNV-81-86-EDD
Description: 2X2 FSR TROFFER WITH .156 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: 5443.0 lumens
Efficiency: N/A
Efficacy: 108.9 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

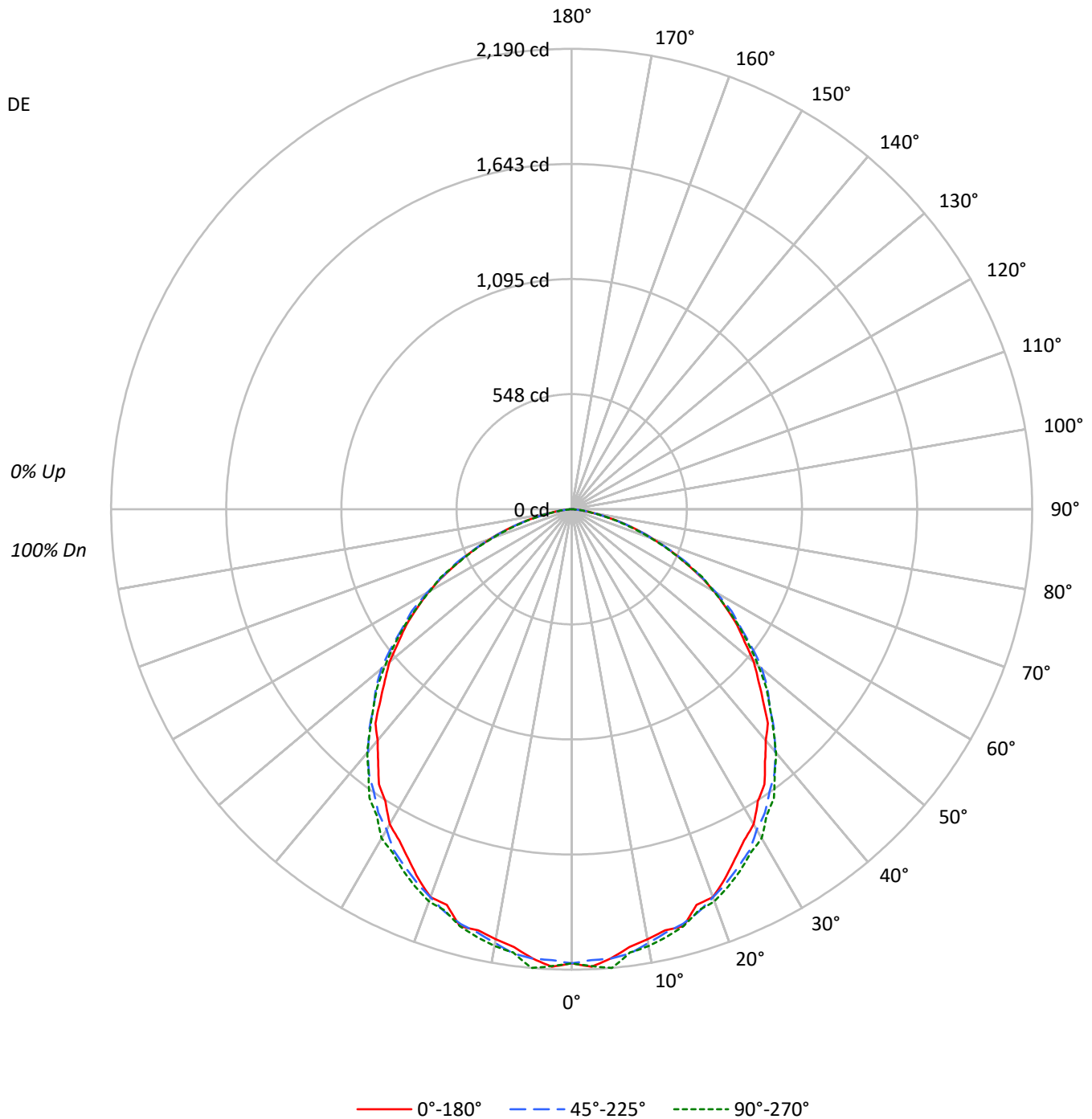
Input Watts (W): 50
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	5811	5811	5811
5°	5792	5794	5917
10°	5675	5725	5765
15°	5720	5689	5721
20°	5623	5623	5683
25°	5450	5570	5631
30°	5375	5470	5615
35°	5249	5386	5507
40°	5044	5288	5311
45°	4892	5066	5074
50°	4731	4945	4850
55°	4508	4596	4563
60°	4216	4258	4181
65°	3759	3855	3732
70°	3225	3236	3146
75°	2555	2548	2450
80°	1711	1664	1599
85°	929	920	861

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 5197 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.1	3.7
10°-20°	575.7	10.6
20°-30°	862.6	15.8
30°-40°	1022.3	18.8
40°-50°	1024.2	18.8
50°-60°	869.4	16.0
60°-70°	586.2	10.8
70°-80°	257.6	4.7
80°-90°	41.9	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°	1641.5	30.2
0°-40°	2663.8	48.9
0°-60°	4557.4	83.7
0°-90°	5443.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5443.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2160	2160	2160	2160	2160	
5°	2144	2139	2145	2139	2190	202
15°	2053	2029	2042	2053	2053	572
25°	1836	1846	1876	1900	1896	849
35°	1598	1602	1640	1678	1676	992
45°	1286	1310	1331	1366	1333	994
55°	961	954	980	973	973	855
65°	590	582	605	582	586	587
75°	246	241	245	228	236	263
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°	2159.6	2159.6	2159.6	2159.6	2159.6
2.5°	2178.3	2161.9	2146.5	2164.4	2175.3
5°	2144.3	2139.3	2145.1	2138.7	2190.3
7.5°	2100.3	2119.5	2130.6	2123.7	2126.7
10°	2076.8	2070.1	2095.0	2112.2	2109.7
12.5°	2051.7	2061.8	2063.2	2081.8	2083.5
15°	2053.1	2029.4	2042.0	2052.6	2053.4
17.5°	1973.4	1999.0	2007.7	2031.9	2001.8
20°	1963.6	1944.9	1963.6	1988.4	1984.5
22.5°	1903.7	1882.8	1922.9	1944.9	1943.5
25°	1835.6	1845.7	1875.8	1900.3	1896.4
27.5°	1776.0	1787.7	1830.6	1864.3	1842.6
30°	1729.9	1724.1	1760.3	1790.5	1807.2
32.5°	1647.7	1668.9	1711.3	1741.1	1725.2
35°	1597.8	1602.5	1639.6	1677.5	1676.4
37.5°	1510.5	1532.5	1584.7	1595.3	1585.5
40°	1436.0	1458.1	1505.2	1516.6	1511.9
42.5°	1381.1	1385.0	1425.4	1438.6	1417.6
45°	1285.5	1309.5	1331.2	1365.5	1333.2
47.5°	1204.0	1215.2	1262.0	1271.2	1254.2
50°	1130.2	1134.1	1181.2	1169.7	1158.6
52.5°	1037.3	1053.8	1080.2	1078.0	1064.9
55°	960.9	954.5	979.6	972.9	972.6
57.5°	869.2	880.3	900.9	890.3	873.3
60°	783.3	783.6	791.1	779.1	776.9
62.5°	687.6	691.0	692.6	677.9	701.8
65°	590.3	582.5	605.4	582.2	586.1
67.5°	500.8	504.7	502.5	488.0	493.6
70°	409.9	414.9	411.3	394.8	399.9
72.5°	326.8	320.7	324.6	303.9	313.4
75°	245.7	240.6	245.1	227.8	235.6
77.5°	167.3	171.2	168.4	159.2	164.5
80°	110.4	107.4	107.4	102.1	103.2
82.5°	64.4	61.3	60.5	58.8	61.3
85°	30.1	29.3	29.8	29.0	27.9
87.5°	10.9	11.2	11.2	10.6	10.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)