

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: P562084

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562084
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-1HI-40-UNV-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3944.0 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

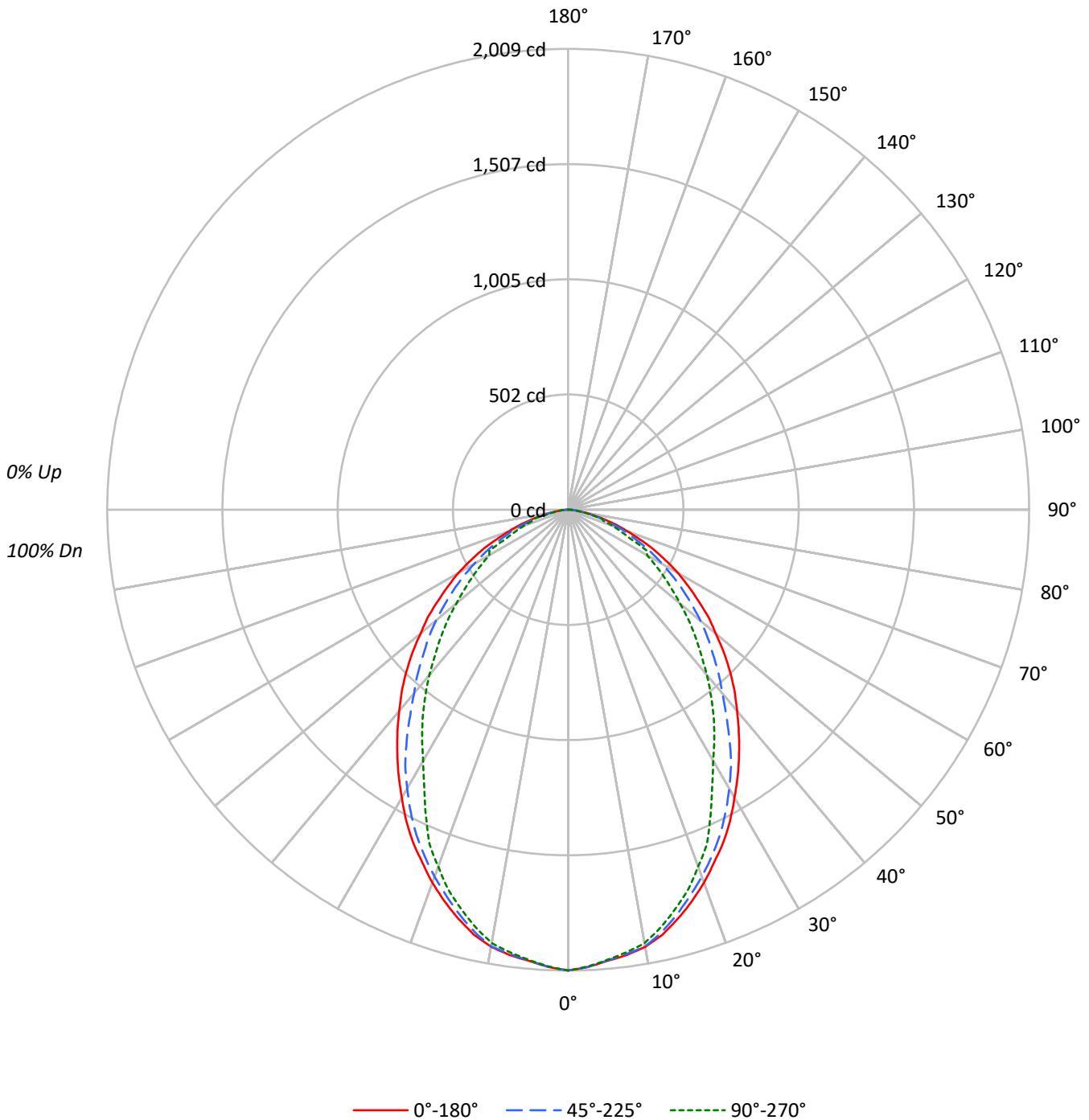
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2703	2703	2703
5°	2666	2663	2660
10°	2643	2640	2621
15°	2572	2546	2511
20°	2478	2438	2371
25°	2376	2324	2179
30°	2252	2179	1963
35°	2133	2014	1816
40°	2011	1836	1652
45°	1896	1697	1494
50°	1755	1575	1332
55°	1624	1427	1193
60°	1488	1275	1069
65°	1309	1117	947
70°	1078	978	804
75°	857	749	785
80°	576	540	504
85°	358	431	502

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1896 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.0	4.7
10°-20°	513.2	13.0
20°-30°	710.5	18.0
30°-40°	757.6	19.2
40°-50°	691.2	17.5
50°-60°	541.5	13.7
60°-70°	352.9	8.9
70°-80°	156.4	4.0
80°-90°	33.6	0.9
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°	1410.8	35.8
0°-40°	2168.4	55.0
0°-60°	3401.1	86.2
0°-90°	3944.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3944.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2009	2009	2009	2009	2009	
5°	1974	1972	1972	1970	1970	187
15°	1846	1846	1828	1809	1802	519
25°	1600	1591	1565	1510	1468	735
35°	1298	1289	1226	1133	1106	812
45°	996	976	892	818	785	767
55°	692	671	608	536	509	621
65°	411	388	351	358	297	405
75°	165	153	144	137	151	177
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2009.0	2009.0	2009.0	2009.0	2009.0
2.5°	1995.1	1995.1	1995.1	1992.8	1992.8
5°	1974.2	1971.9	1971.9	1969.5	1969.5
7.5°	1957.9	1955.6	1953.3	1951.0	1946.3
10°	1934.7	1934.7	1932.4	1920.8	1918.4
12.5°	1897.5	1895.2	1885.9	1869.7	1865.0
15°	1846.4	1846.4	1827.9	1809.3	1802.3
17.5°	1790.7	1788.4	1765.2	1746.6	1737.3
20°	1730.3	1725.7	1702.4	1672.2	1656.0
22.5°	1663.0	1663.0	1635.1	1595.6	1579.3
25°	1600.2	1591.0	1565.4	1509.7	1467.9
27.5°	1528.2	1514.3	1486.4	1407.5	1358.7
30°	1449.3	1442.3	1402.8	1300.6	1263.5
32.5°	1375.0	1363.3	1321.5	1214.7	1184.5
35°	1298.3	1289.0	1226.3	1133.4	1105.5
37.5°	1221.7	1210.1	1131.1	1056.8	1021.9
40°	1145.0	1131.1	1045.2	977.8	940.6
42.5°	1073.0	1054.4	970.8	898.8	857.0
45°	996.4	975.5	891.9	817.5	785.0
47.5°	919.7	901.2	824.5	747.9	710.7
50°	838.4	822.2	752.5	675.9	636.4
52.5°	771.1	745.5	678.2	601.5	569.0
55°	692.1	671.2	608.5	536.5	508.6
57.5°	620.1	599.2	541.2	473.8	450.6
60°	552.8	522.6	473.8	415.7	397.2
62.5°	478.4	455.2	413.4	364.6	387.9
65°	411.1	387.9	350.7	357.7	297.3
67.5°	336.8	325.2	292.6	260.1	250.8
70°	274.1	260.1	248.5	213.7	204.4
72.5°	218.3	204.4	188.1	169.5	162.6
75°	164.9	153.3	144.0	137.0	151.0
77.5°	113.8	109.2	102.2	95.2	92.9
80°	74.3	72.0	69.7	67.4	65.0
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.5	27.9	30.2	32.5
87.5°	13.9	13.9	16.3	18.6	20.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)