

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: P562052

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562052
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-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3740.0 lumens
Efficiency: N/A
Efficacy: 86.6 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

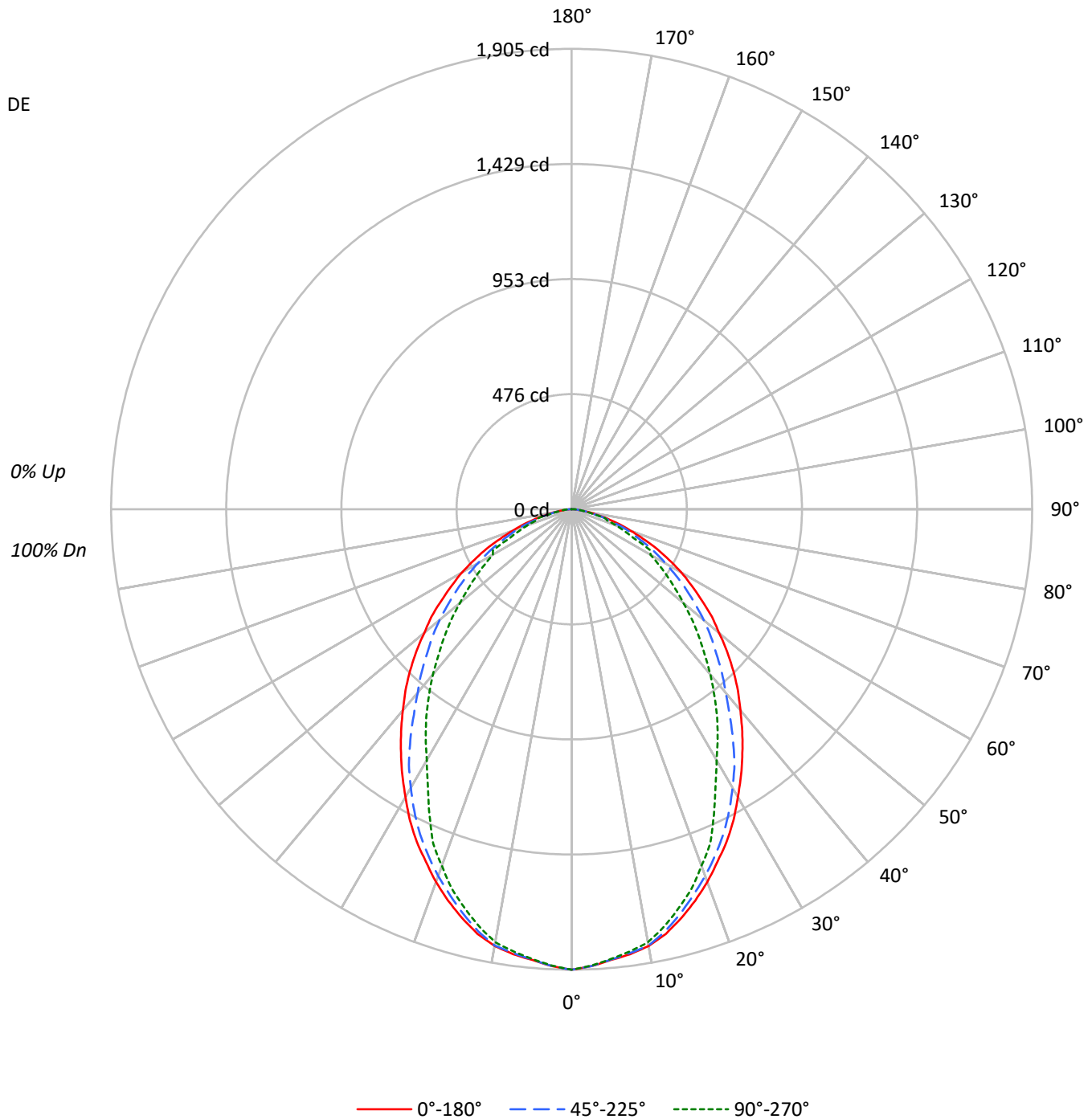
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2563	2563	2563
5°	2529	2526	2523
10°	2507	2504	2485
15°	2439	2414	2381
20°	2349	2312	2248
25°	2253	2204	2066
30°	2135	2067	1861
35°	2022	1910	1722
40°	1907	1741	1567
45°	1798	1609	1416
50°	1664	1494	1263
55°	1540	1354	1131
60°	1411	1209	1013
65°	1241	1059	897
70°	1022	927	762
75°	813	710	744
80°	546	512	478
85°	340	408	475

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1798 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.3	4.7
10°-20°	486.7	13.0
20°-30°	673.8	18.0
30°-40°	718.5	19.2
40°-50°	655.4	17.5
50°-60°	513.5	13.7
60°-70°	334.7	8.9
70°-80°	148.3	4.0
80°-90°	31.8	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°	1337.8	35.8
0°-40°	2056.3	55.0
0°-60°	3225.2	86.2
0°-90°	3740.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3740.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1905	1905	1905	1905	1905	
5°	1872	1870	1870	1868	1868	178
15°	1751	1751	1733	1716	1709	492
25°	1518	1509	1484	1432	1392	697
35°	1231	1222	1163	1075	1048	770
45°	945	925	846	775	744	728
55°	656	636	577	509	482	589
65°	390	368	333	339	282	384
75°	156	145	137	130	143	168
85°	22	24	26	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1905.1	1905.1	1905.1	1905.1	1905.1
2.5°	1891.9	1891.9	1891.9	1889.7	1889.7
5°	1872.1	1869.9	1869.9	1867.7	1867.7
7.5°	1856.7	1854.5	1852.2	1850.0	1845.6
10°	1834.6	1834.6	1832.4	1821.4	1819.2
12.5°	1799.4	1797.2	1788.4	1773.0	1768.6
15°	1750.9	1750.9	1733.3	1715.7	1709.1
17.5°	1698.1	1695.9	1673.9	1656.2	1647.4
20°	1640.8	1636.4	1614.4	1585.8	1570.3
22.5°	1576.9	1576.9	1550.5	1513.1	1497.7
25°	1517.5	1508.7	1484.4	1431.6	1391.9
27.5°	1449.2	1436.0	1409.6	1334.7	1288.4
30°	1374.3	1367.7	1330.3	1233.4	1198.1
32.5°	1303.8	1292.8	1253.2	1151.9	1123.2
35°	1231.2	1222.4	1162.9	1074.8	1048.4
37.5°	1158.5	1147.5	1072.6	1002.1	969.1
40°	1085.8	1072.6	991.1	927.2	892.0
42.5°	1017.5	999.9	920.6	852.3	812.7
45°	944.8	925.0	845.7	775.3	744.4
47.5°	872.2	854.5	781.9	709.2	673.9
50°	795.1	779.7	713.6	640.9	603.5
52.5°	731.2	707.0	643.1	570.4	539.6
55°	656.3	636.5	577.0	508.8	482.3
57.5°	588.1	568.2	513.2	449.3	427.3
60°	524.2	495.5	449.3	394.2	376.6
62.5°	453.7	431.7	392.0	345.8	367.8
65°	389.8	367.8	332.6	339.2	281.9
67.5°	319.4	308.3	277.5	246.7	237.9
70°	259.9	246.7	235.7	202.6	193.8
72.5°	207.0	193.8	178.4	160.8	154.2
75°	156.4	145.4	136.6	129.9	143.2
77.5°	107.9	103.5	96.9	90.3	88.1
80°	70.5	68.3	66.1	63.9	61.7
82.5°	41.8	41.8	41.8	41.8	41.8
85°	22.0	24.2	26.4	28.6	30.8
87.5°	13.2	13.2	15.4	17.6	19.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)