

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: P562148

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562148
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4153.0 lumens
Efficiency: N/A
Efficacy: 96.1 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

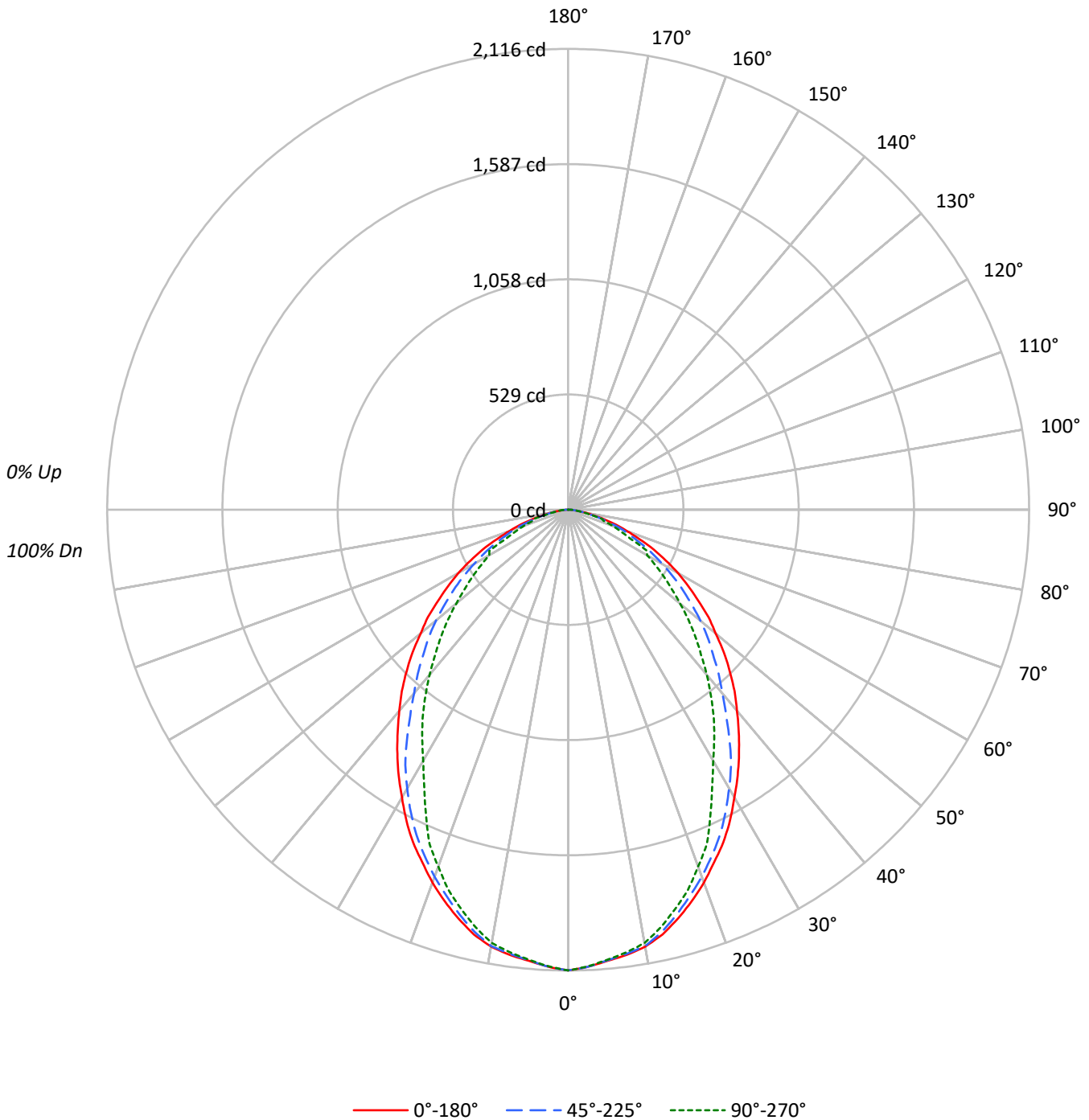
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2846	2846	2846
5°	2808	2804	2801
10°	2783	2780	2760
15°	2708	2681	2644
20°	2609	2567	2497
25°	2502	2447	2295
30°	2371	2295	2067
35°	2246	2121	1912
40°	2118	1933	1740
45°	1996	1787	1573
50°	1848	1659	1403
55°	1710	1503	1256
60°	1566	1343	1125
65°	1378	1176	996
70°	1135	1030	847
75°	902	788	827
80°	607	569	531
85°	378	452	528

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1996 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.9	4.7
10°-20°	540.4	13.0
20°-30°	748.2	18.0
30°-40°	797.8	19.2
40°-50°	727.8	17.5
50°-60°	570.2	13.7
60°-70°	371.6	8.9
70°-80°	164.6	4.0
80°-90°	35.4	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°	1485.6	35.8
0°-40°	2283.4	55.0
0°-60°	3581.4	86.2
0°-90°	4153.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4153.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2116	2116	2116	2116	2116	
5°	2079	2076	2076	2074	2074	197
15°	1944	1944	1925	1905	1898	547
25°	1685	1675	1648	1590	1546	774
35°	1367	1357	1291	1194	1164	855
45°	1049	1027	939	861	827	808
55°	729	707	641	565	536	654
65°	433	408	369	377	313	427
75°	174	161	152	144	159	186
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2115.5	2115.5	2115.5	2115.5	2115.5
2.5°	2100.8	2100.8	2100.8	2098.4	2098.4
5°	2078.8	2076.4	2076.4	2073.9	2073.9
7.5°	2061.7	2059.2	2056.8	2054.3	2049.5
10°	2037.2	2037.2	2034.8	2022.5	2020.1
12.5°	1998.1	1995.6	1985.9	1968.7	1963.9
15°	1944.3	1944.3	1924.7	1905.2	1897.8
17.5°	1885.6	1883.1	1858.7	1839.1	1829.3
20°	1822.0	1817.1	1792.7	1760.9	1743.7
22.5°	1751.1	1751.1	1721.7	1680.2	1663.0
25°	1685.0	1675.3	1648.4	1589.7	1545.6
27.5°	1609.2	1594.6	1565.2	1482.1	1430.7
30°	1526.1	1518.7	1477.2	1369.6	1330.4
32.5°	1447.8	1435.6	1391.6	1279.1	1247.3
35°	1367.1	1357.3	1291.3	1193.5	1164.1
37.5°	1286.4	1274.2	1191.0	1112.8	1076.1
40°	1205.7	1191.0	1100.5	1029.6	990.5
42.5°	1129.9	1110.3	1022.3	946.5	902.4
45°	1049.2	1027.2	939.1	860.9	826.6
47.5°	968.5	948.9	868.2	787.5	748.4
50°	882.9	865.8	792.4	711.7	670.1
52.5°	812.0	785.1	714.1	633.4	599.2
55°	728.8	706.8	640.8	564.9	535.6
57.5°	653.0	631.0	569.8	498.9	474.5
60°	582.1	550.3	498.9	437.8	418.2
62.5°	503.8	479.3	435.3	384.0	408.4
65°	432.9	408.4	369.3	376.6	313.0
67.5°	354.6	342.4	308.2	273.9	264.1
70°	288.6	273.9	261.7	225.0	215.2
72.5°	229.9	215.2	198.1	178.5	171.2
75°	173.6	161.4	151.6	144.3	159.0
77.5°	119.8	114.9	107.6	100.3	97.8
80°	78.3	75.8	73.4	70.9	68.5
82.5°	46.5	46.5	46.5	46.5	46.5
85°	24.5	26.9	29.3	31.8	34.2
87.5°	14.7	14.7	17.1	19.6	22.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)