

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: P562124

Luminaire Tested: FSR-24-4-LD4-1HI-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562124
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-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4028.0 lumens
Efficiency: N/A
Efficacy: 93.2 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

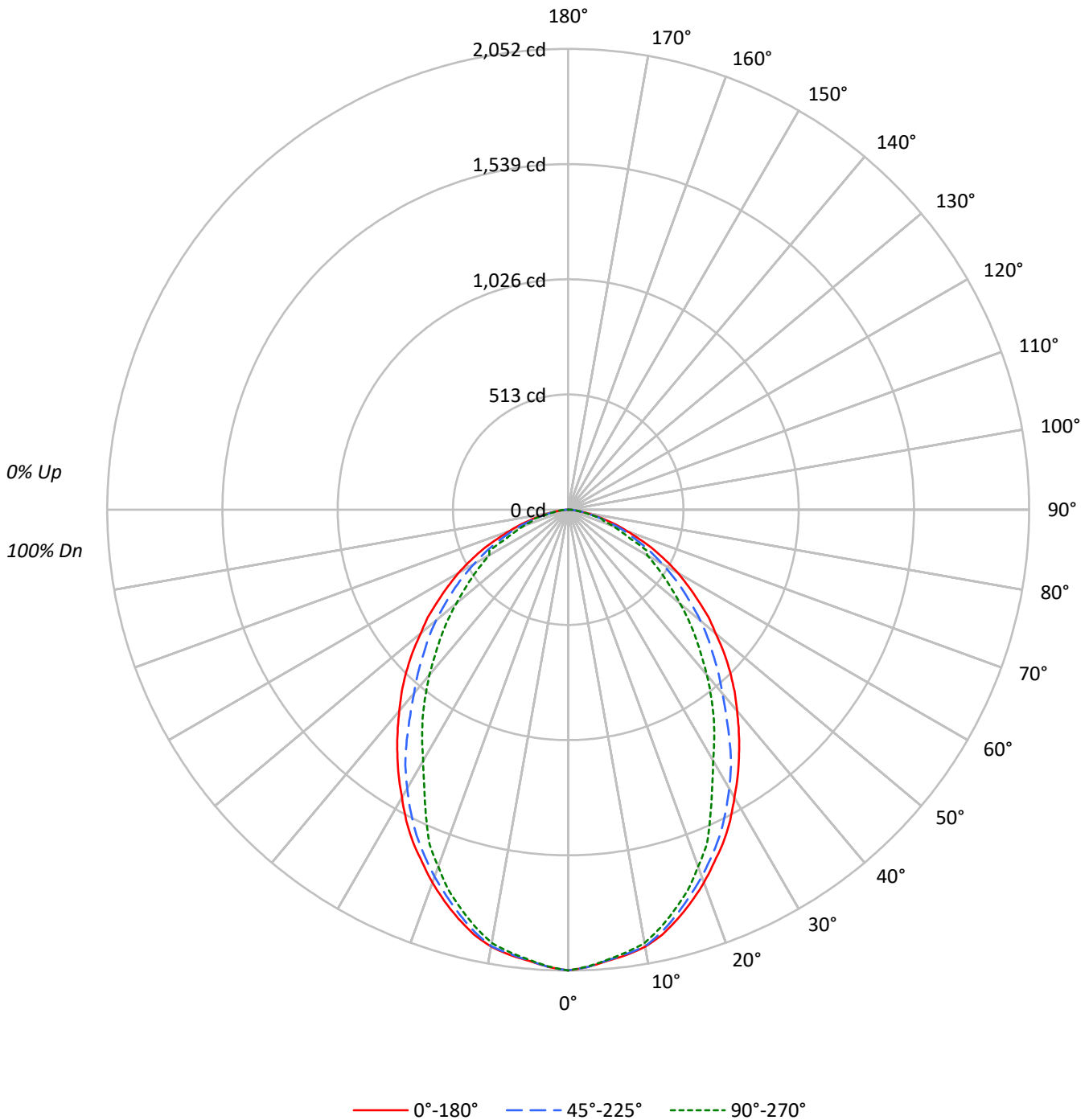
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2761	2761	2761
5°	2723	2720	2717
10°	2700	2696	2677
15°	2627	2600	2564
20°	2530	2490	2422
25°	2426	2374	2226
30°	2300	2226	2005
35°	2178	2057	1855
40°	2054	1875	1687
45°	1936	1733	1525
50°	1792	1609	1360
55°	1658	1458	1219
60°	1519	1302	1091
65°	1337	1140	967
70°	1101	998	821
75°	875	765	802
80°	588	552	514
85°	366	440	513

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1936 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	191.0	4.7
10°-20°	524.2	13.0
20°-30°	725.7	18.0
30°-40°	773.8	19.2
40°-50°	705.9	17.5
50°-60°	553.0	13.7
60°-70°	360.4	8.9
70°-80°	159.7	4.0
80°-90°	34.3	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°	1440.9	35.8
0°-40°	2214.6	55.0
0°-60°	3473.6	86.2
0°-90°	4028.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4028.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2052	2052	2052	2052	2052	
5°	2016	2014	2014	2012	2012	191
15°	1886	1886	1867	1848	1841	530
25°	1634	1625	1599	1542	1499	750
35°	1326	1316	1252	1158	1129	829
45°	1018	996	911	835	802	784
55°	707	686	622	548	520	634
65°	420	396	358	365	304	414
75°	168	157	147	140	154	180
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2051.8	2051.8	2051.8	2051.8	2051.8
2.5°	2037.6	2037.6	2037.6	2035.2	2035.2
5°	2016.2	2013.9	2013.9	2011.5	2011.5
7.5°	1999.6	1997.3	1994.9	1992.5	1987.8
10°	1975.9	1975.9	1973.5	1961.7	1959.3
12.5°	1938.0	1935.6	1926.1	1909.5	1904.7
15°	1885.8	1885.8	1866.8	1847.8	1840.7
17.5°	1828.8	1826.5	1802.7	1783.8	1774.3
20°	1767.2	1762.4	1738.7	1707.9	1691.3
22.5°	1698.4	1698.4	1669.9	1629.6	1613.0
25°	1634.3	1624.8	1598.8	1541.8	1499.1
27.5°	1560.8	1546.6	1518.1	1437.5	1387.6
30°	1480.1	1473.0	1432.7	1328.3	1290.4
32.5°	1404.2	1392.4	1349.7	1240.6	1209.7
35°	1326.0	1316.5	1252.4	1157.6	1129.1
37.5°	1247.7	1235.8	1155.2	1079.3	1043.7
40°	1169.4	1155.2	1067.4	998.6	960.7
42.5°	1095.9	1076.9	991.5	918.0	875.3
45°	1017.6	996.3	910.9	835.0	801.7
47.5°	939.3	920.3	842.1	763.8	725.8
50°	856.3	839.7	768.5	690.3	649.9
52.5°	787.5	761.4	692.6	614.4	581.1
55°	706.9	685.5	621.5	547.9	519.5
57.5°	633.3	612.0	552.7	483.9	460.2
60°	564.5	533.7	483.9	424.6	405.6
62.5°	488.6	464.9	422.2	372.4	396.1
65°	419.9	396.1	358.2	365.3	303.6
67.5°	343.9	332.1	298.9	265.7	256.2
70°	279.9	265.7	253.8	218.2	208.7
72.5°	223.0	208.7	192.1	173.2	166.0
75°	168.4	156.6	147.1	140.0	154.2
77.5°	116.2	111.5	104.4	97.3	94.9
80°	75.9	73.5	71.2	68.8	66.4
82.5°	45.1	45.1	45.1	45.1	45.1
85°	23.7	26.1	28.5	30.8	33.2
87.5°	14.2	14.2	16.6	19.0	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)