

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: P562022

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562022
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-35-UNV-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3763.0 lumens
Efficiency: N/A
Efficacy: 87.1 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

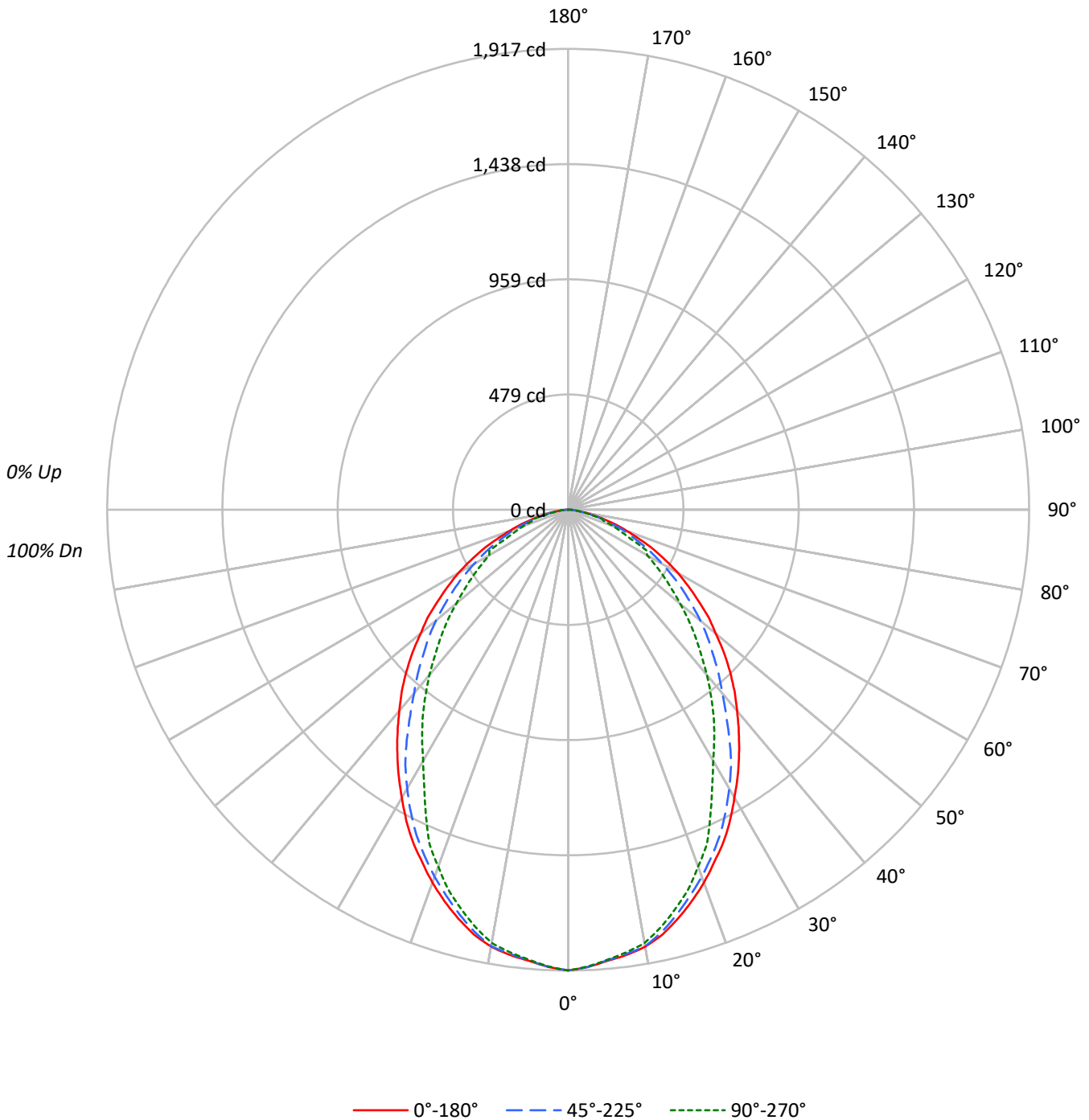
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2579	2579	2579
5°	2544	2541	2538
10°	2522	2519	2501
15°	2454	2429	2395
20°	2364	2326	2262
25°	2267	2217	2079
30°	2148	2080	1873
35°	2035	1922	1733
40°	1919	1751	1576
45°	1809	1619	1425
50°	1675	1503	1271
55°	1549	1362	1138
60°	1419	1217	1020
65°	1249	1065	903
70°	1029	933	767
75°	818	714	749
80°	549	515	480
85°	343	411	479

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1809 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.4	4.7
10°-20°	489.7	13.0
20°-30°	677.9	18.0
30°-40°	722.9	19.2
40°-50°	659.5	17.5
50°-60°	516.7	13.7
60°-70°	336.7	8.9
70°-80°	149.2	4.0
80°-90°	32.0	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°	1346.1	35.8
0°-40°	2068.9	55.0
0°-60°	3245.1	86.2
0°-90°	3763.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3763.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1917	1917	1917	1917	1917	
5°	1884	1881	1881	1879	1879	179
15°	1762	1762	1744	1726	1720	495
25°	1527	1518	1494	1440	1400	701
35°	1239	1230	1170	1081	1055	774
45°	951	931	851	780	749	732
55°	660	640	581	512	485	592
65°	392	370	335	341	284	387
75°	157	146	137	131	144	169
85°	22	24	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1916.8	1916.8	1916.8	1916.8	1916.8
2.5°	1903.5	1903.5	1903.5	1901.3	1901.3
5°	1883.6	1881.4	1881.4	1879.2	1879.2
7.5°	1868.1	1865.9	1863.6	1861.4	1857.0
10°	1845.9	1845.9	1843.7	1832.6	1830.4
12.5°	1810.5	1808.2	1799.4	1783.9	1779.4
15°	1761.7	1761.7	1744.0	1726.2	1719.6
17.5°	1708.5	1706.3	1684.1	1666.4	1657.6
20°	1650.9	1646.5	1624.3	1595.5	1580.0
22.5°	1586.6	1586.6	1560.0	1522.4	1506.9
25°	1526.8	1517.9	1493.6	1440.4	1400.5
27.5°	1458.1	1444.8	1418.2	1342.9	1296.3
30°	1382.8	1376.1	1338.5	1240.9	1205.5
32.5°	1311.9	1300.8	1260.9	1159.0	1130.1
35°	1238.7	1229.9	1170.0	1081.4	1054.8
37.5°	1165.6	1154.5	1079.2	1008.3	975.0
40°	1092.5	1079.2	997.2	932.9	897.5
42.5°	1023.8	1006.1	926.3	857.6	817.7
45°	950.7	930.7	850.9	780.0	749.0
47.5°	877.5	859.8	786.7	713.5	678.1
50°	800.0	784.5	718.0	644.8	607.2
52.5°	735.7	711.3	647.1	573.9	542.9
55°	660.4	640.4	580.6	511.9	485.3
57.5°	591.7	571.7	516.3	452.1	429.9
60°	527.4	498.6	452.1	396.7	378.9
62.5°	456.5	434.3	394.4	347.9	370.1
65°	392.2	370.1	334.6	341.3	283.6
67.5°	321.3	310.2	279.2	248.2	239.3
70°	261.5	248.2	237.1	203.9	195.0
72.5°	208.3	195.0	179.5	161.8	155.1
75°	157.3	146.3	137.4	130.7	144.0
77.5°	108.6	104.2	97.5	90.9	88.6
80°	70.9	68.7	66.5	64.3	62.0
82.5°	42.1	42.1	42.1	42.1	42.1
85°	22.2	24.4	26.6	28.8	31.0
87.5°	13.3	13.3	15.5	17.7	19.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)