

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: P562828

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562828
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-LD4-2LO-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: 4904.0 lumens
Efficiency: N/A
Efficacy: 104.8 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

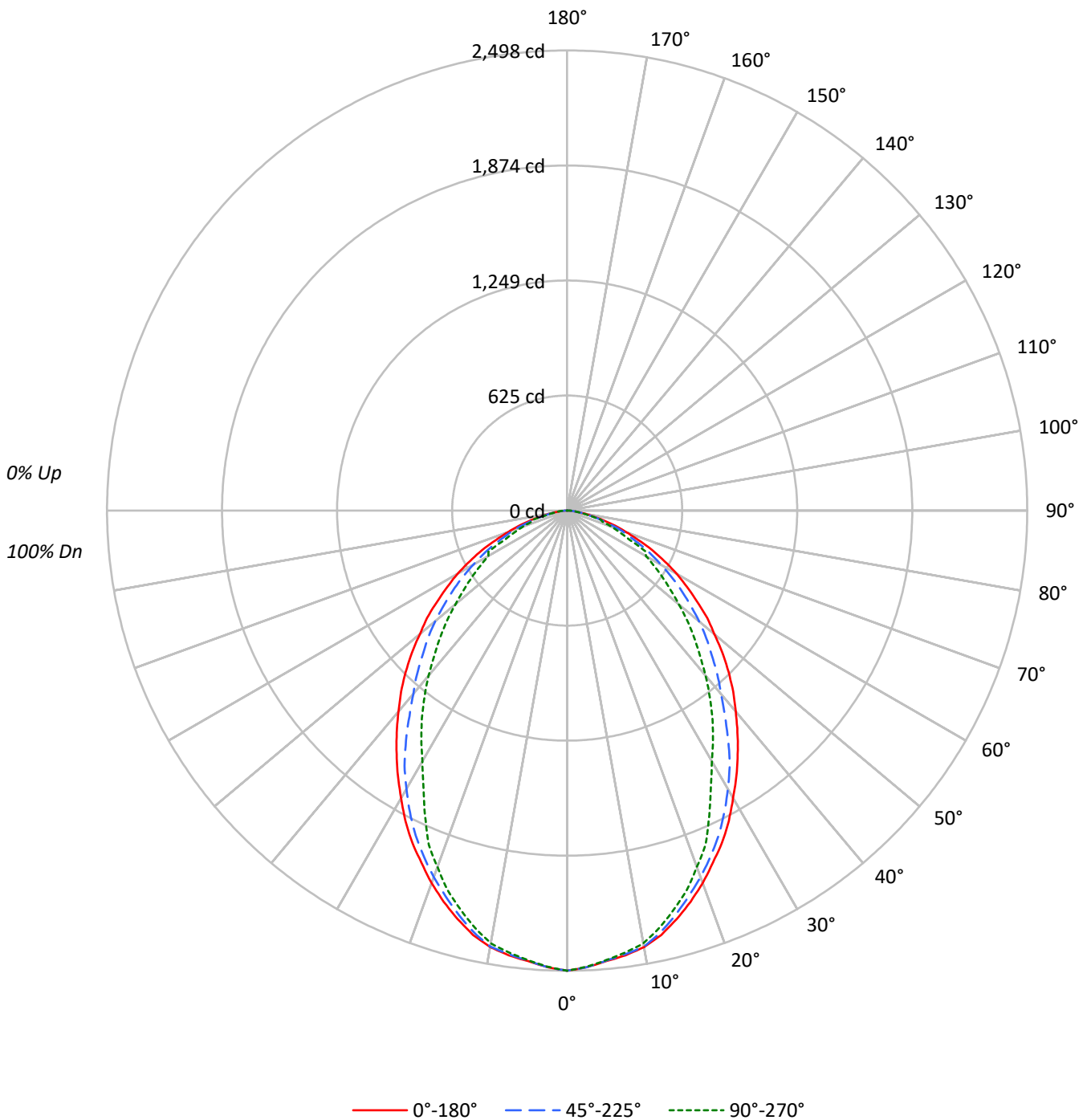
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3361	3361	3361
5°	3315	3311	3308
10°	3287	3283	3259
15°	3198	3166	3122
20°	3081	3031	2948
25°	2954	2890	2710
30°	2800	2710	2441
35°	2652	2505	2258
40°	2501	2283	2054
45°	2357	2110	1857
50°	2182	1959	1656
55°	2019	1775	1483
60°	1850	1585	1329
65°	1628	1388	1177
70°	1341	1216	1000
75°	1066	931	976
80°	716	671	627
85°	446	536	624

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2357 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	232.5	4.7
10°-20°	638.2	13.0
20°-30°	883.5	18.0
30°-40°	942.1	19.2
40°-50°	859.4	17.5
50°-60°	673.3	13.7
60°-70°	438.8	8.9
70°-80°	194.4	4.0
80°-90°	41.7	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°	1754.2	35.8
0°-40°	2696.3	55.0
0°-60°	4229.0	86.2
0°-90°	4904.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4904.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2498	2498	2498	2498	2498	
5°	2455	2452	2452	2449	2449	233
15°	2296	2296	2273	2250	2241	645
25°	1990	1978	1946	1877	1825	913
35°	1614	1603	1525	1409	1375	1009
45°	1239	1213	1109	1016	976	954
55°	861	835	757	667	632	772
65°	511	482	436	445	370	504
75°	205	191	179	170	188	220
85°	29	32	35	38	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2498.0	2498.0	2498.0	2498.0	2498.0
2.5°	2480.7	2480.7	2480.7	2477.8	2477.8
5°	2454.7	2451.8	2451.8	2448.9	2448.9
7.5°	2434.5	2431.6	2428.7	2425.8	2420.1
10°	2405.6	2405.6	2402.7	2388.3	2385.4
12.5°	2359.4	2356.5	2345.0	2324.8	2319.0
15°	2295.9	2295.9	2272.8	2249.7	2241.0
17.5°	2226.6	2223.7	2194.8	2171.7	2160.1
20°	2151.5	2145.7	2116.8	2079.3	2059.1
22.5°	2067.7	2067.7	2033.1	1984.0	1963.8
25°	1989.8	1978.2	1946.4	1877.1	1825.2
27.5°	1900.2	1882.9	1848.3	1750.1	1689.4
30°	1802.0	1793.4	1744.3	1617.2	1571.0
32.5°	1709.6	1695.2	1643.2	1510.4	1472.8
35°	1614.3	1602.8	1524.8	1409.3	1374.6
37.5°	1519.0	1504.6	1406.4	1314.0	1270.7
40°	1423.7	1406.4	1299.6	1215.8	1169.6
42.5°	1334.2	1311.1	1207.1	1117.6	1065.6
45°	1238.9	1212.9	1109.0	1016.5	976.1
47.5°	1143.6	1120.5	1025.2	929.9	883.7
50°	1042.5	1022.3	935.7	840.4	791.3
52.5°	958.8	927.0	843.3	748.0	707.5
55°	860.6	834.6	756.6	667.1	632.4
57.5°	771.1	745.1	672.9	589.1	560.3
60°	687.3	649.8	589.1	516.9	493.8
62.5°	594.9	566.0	514.0	453.4	482.3
65°	511.2	482.3	436.1	444.7	369.7
67.5°	418.7	404.3	363.9	323.4	311.9
70°	340.8	323.4	309.0	265.7	254.1
72.5°	271.5	254.1	233.9	210.8	202.2
75°	205.0	190.6	179.0	170.4	187.7
77.5°	141.5	135.7	127.1	118.4	115.5
80°	92.4	89.5	86.6	83.7	80.9
82.5°	54.9	54.9	54.9	54.9	54.9
85°	28.9	31.8	34.7	37.5	40.4
87.5°	17.3	17.3	20.2	23.1	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)