

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: P561571

Luminaire Tested: FSR-12-4-LD4-2LO-35-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561571
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-12-4-LD4-2LO-35-UNV-93-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4872.0 lumens
Efficiency: N/A
Efficacy: 104.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

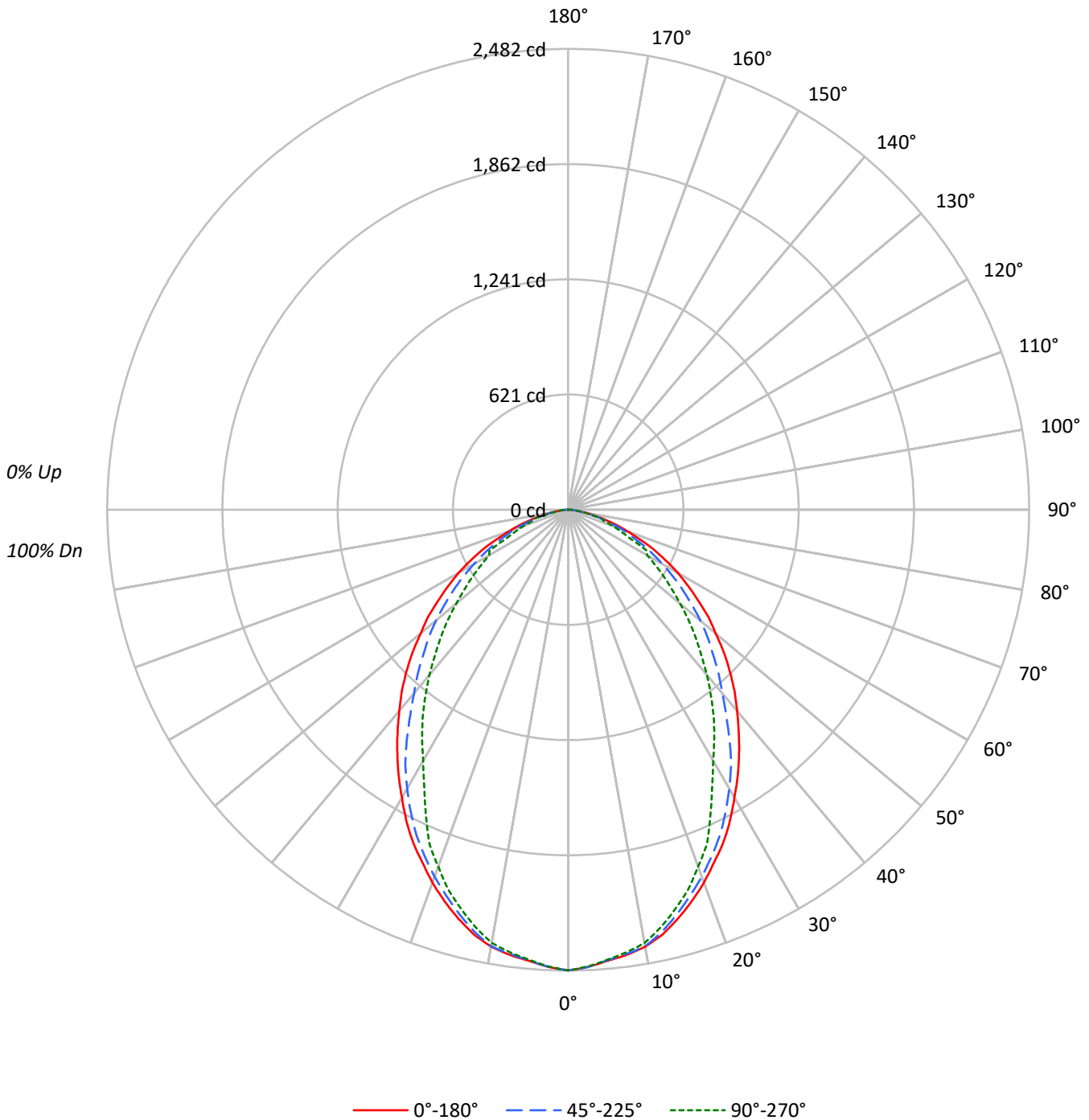
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6678	6678	6678
5°	6588	6580	6572
10°	6530	6523	6475
15°	6354	6290	6203
20°	6121	6022	5858
25°	5869	5741	5384
30°	5563	5385	4850
35°	5269	4977	4486
40°	4969	4535	4082
45°	4684	4193	3690
50°	4336	3892	3291
55°	4011	3527	2948
60°	3675	3150	2640
65°	3233	2758	2338
70°	2663	2415	1987
75°	2118	1850	1939
80°	1423	1334	1244
85°	886	1062	1241

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4684 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	231.0	4.7
10°-20°	634.0	13.0
20°-30°	877.7	18.0
30°-40°	935.9	19.2
40°-50°	853.8	17.5
50°-60°	668.9	13.7
60°-70°	436.0	8.9
70°-80°	193.1	4.0
80°-90°	41.5	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°	1742.7	35.8
0°-40°	2678.7	55.0
0°-60°	4201.4	86.2
0°-90°	4872.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4872.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2482	2482	2482	2482	2482	
5°	2439	2436	2436	2433	2433	231
15°	2281	2281	2258	2235	2226	641
25°	1977	1965	1934	1865	1813	908
35°	1604	1592	1515	1400	1366	1003
45°	1231	1205	1102	1010	970	948
55°	855	829	752	663	628	767
65°	508	479	433	442	367	500
75°	204	189	178	169	186	218
85°	29	32	34	37	40	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2481.7	2481.7	2481.7	2481.7	2481.7
2.5°	2464.5	2464.5	2464.5	2461.6	2461.6
5°	2438.7	2435.8	2435.8	2433.0	2433.0
7.5°	2418.6	2415.7	2412.9	2410.0	2404.3
10°	2389.9	2389.9	2387.1	2372.7	2369.8
12.5°	2344.0	2341.1	2329.7	2309.6	2303.9
15°	2280.9	2280.9	2257.9	2235.0	2226.4
17.5°	2212.0	2209.2	2180.5	2157.5	2146.1
20°	2137.4	2131.7	2103.0	2065.7	2045.6
22.5°	2054.2	2054.2	2019.8	1971.0	1951.0
25°	1976.8	1965.3	1933.7	1864.9	1813.2
27.5°	1887.8	1870.6	1836.2	1738.6	1678.4
30°	1790.3	1781.7	1732.9	1606.7	1560.8
32.5°	1698.5	1684.1	1632.5	1500.5	1463.2
35°	1603.8	1592.3	1514.9	1400.1	1365.7
37.5°	1509.1	1494.8	1397.2	1305.4	1262.4
40°	1414.4	1397.2	1291.1	1207.9	1162.0
42.5°	1325.5	1302.6	1199.3	1110.3	1058.7
45°	1230.8	1205.0	1101.7	1009.9	969.7
47.5°	1136.1	1113.2	1018.5	923.8	877.9
50°	1035.7	1015.6	929.6	834.9	786.1
52.5°	952.5	921.0	837.8	743.1	702.9
55°	855.0	829.2	751.7	662.8	628.3
57.5°	766.0	740.2	668.5	585.3	556.6
60°	682.8	645.5	585.3	513.6	490.6
62.5°	591.0	562.3	510.7	450.4	479.1
65°	507.8	479.1	433.2	441.8	367.2
67.5°	416.0	401.7	361.5	321.3	309.9
70°	338.5	321.3	307.0	264.0	252.5
72.5°	269.7	252.5	232.4	209.4	200.8
75°	203.7	189.4	177.9	169.3	186.5
77.5°	140.6	134.8	126.2	117.6	114.8
80°	91.8	88.9	86.1	83.2	80.3
82.5°	54.5	54.5	54.5	54.5	54.5
85°	28.7	31.6	34.4	37.3	40.2
87.5°	17.2	17.2	20.1	23.0	25.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)