

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: P561696

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561696
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-50-UNV-93-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4442.0 lumens
Efficiency: N/A
Efficacy: 94.9 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

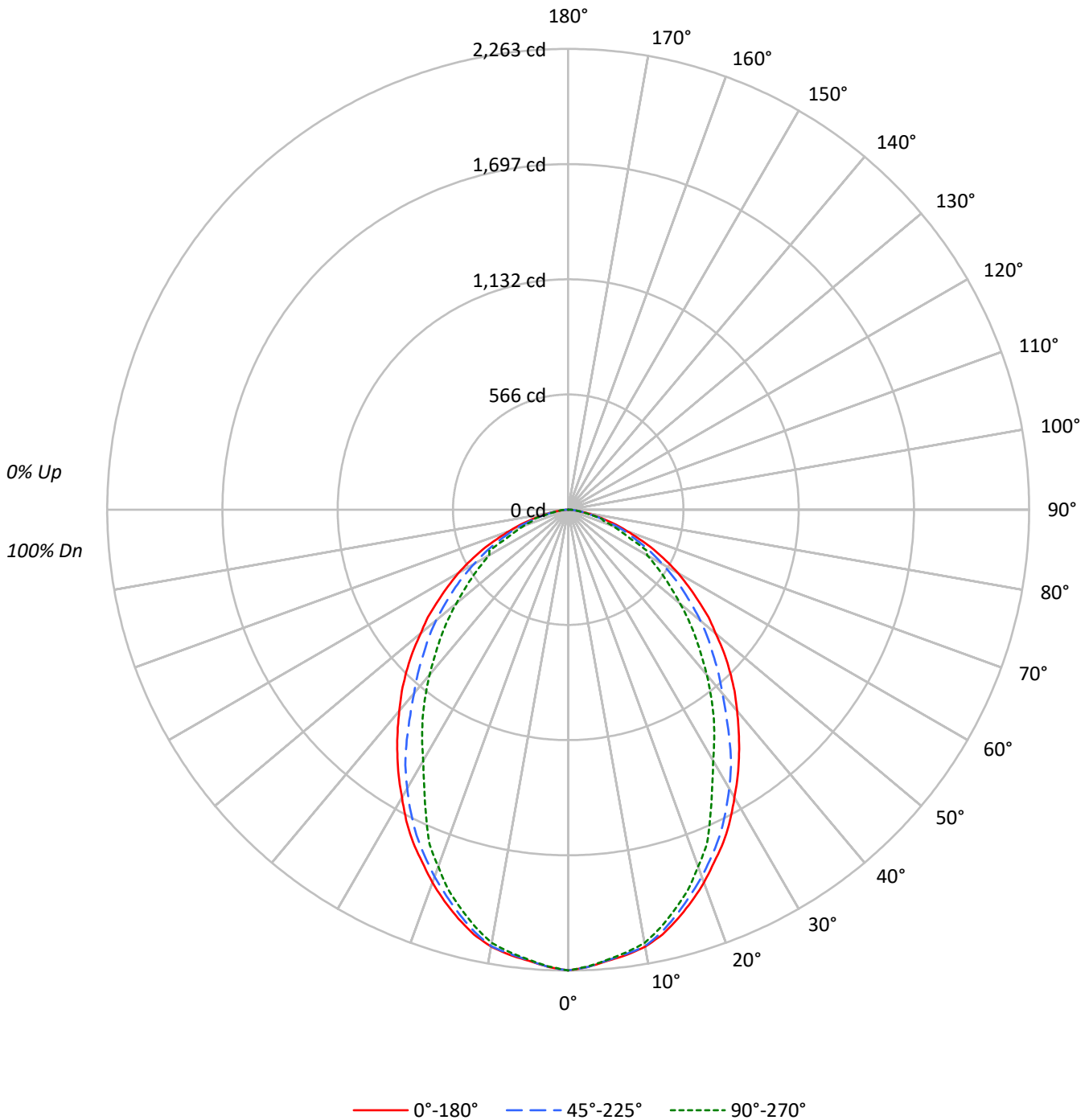
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6089	6089	6089
5°	6006	5999	5992
10°	5954	5947	5904
15°	5794	5735	5655
20°	5581	5491	5341
25°	5351	5235	4909
30°	5072	4909	4422
35°	4804	4537	4090
40°	4530	4135	3721
45°	4271	3823	3365
50°	3953	3548	3000
55°	3657	3215	2688
60°	3351	2872	2407
65°	2948	2515	2132
70°	2429	2202	1811
75°	1931	1686	1768
80°	1297	1216	1134
85°	809	969	1130

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4271 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.6	4.7
10°-20°	578.0	13.0
20°-30°	800.3	18.0
30°-40°	853.3	19.2
40°-50°	778.5	17.5
50°-60°	609.9	13.7
60°-70°	397.5	8.9
70°-80°	176.1	4.0
80°-90°	37.8	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°	1588.9	35.8
0°-40°	2442.3	55.0
0°-60°	3830.6	86.2
0°-90°	4442.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4442.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2263	2263	2263	2263	2263	
5°	2224	2221	2221	2218	2218	211
15°	2080	2080	2059	2038	2030	585
25°	1802	1792	1763	1700	1653	827
35°	1462	1452	1381	1276	1245	914
45°	1122	1099	1004	921	884	864
55°	780	756	685	604	573	699
65°	463	437	395	403	335	456
75°	186	173	162	154	170	199
85°	26	29	31	34	37	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2262.7	2262.7	2262.7	2262.7	2262.7
2.5°	2247.0	2247.0	2247.0	2244.4	2244.4
5°	2223.5	2220.8	2220.8	2218.2	2218.2
7.5°	2205.1	2202.5	2199.9	2197.3	2192.1
10°	2179.0	2179.0	2176.4	2163.3	2160.7
12.5°	2137.1	2134.5	2124.1	2105.7	2100.5
15°	2079.6	2079.6	2058.7	2037.7	2029.9
17.5°	2016.8	2014.2	1988.0	1967.1	1956.6
20°	1948.8	1943.6	1917.4	1883.4	1865.1
22.5°	1872.9	1872.9	1841.5	1797.1	1778.8
25°	1802.3	1791.8	1763.1	1700.3	1653.2
27.5°	1721.2	1705.5	1674.1	1585.2	1530.3
30°	1632.3	1624.4	1580.0	1464.9	1423.0
32.5°	1548.6	1535.5	1488.4	1368.1	1334.1
35°	1462.3	1451.8	1381.2	1276.5	1245.1
37.5°	1375.9	1362.8	1273.9	1190.2	1151.0
40°	1289.6	1273.9	1177.1	1101.3	1059.4
42.5°	1208.5	1187.6	1093.4	1012.3	965.2
45°	1122.2	1098.6	1004.5	920.8	884.2
47.5°	1035.9	1014.9	928.6	842.3	800.4
50°	944.3	926.0	847.5	761.2	716.7
52.5°	868.5	839.7	763.8	677.5	640.9
55°	779.5	756.0	685.3	604.3	572.9
57.5°	698.4	674.9	609.5	533.6	507.5
60°	622.6	588.6	533.6	468.2	447.3
62.5°	538.9	512.7	465.6	410.7	436.8
65°	463.0	436.8	395.0	402.8	334.8
67.5°	379.3	366.2	329.6	293.0	282.5
70°	308.7	293.0	279.9	240.7	230.2
72.5°	245.9	230.2	211.9	191.0	183.1
75°	185.7	172.6	162.2	154.3	170.0
77.5°	128.2	122.9	115.1	107.2	104.6
80°	83.7	81.1	78.5	75.9	73.2
82.5°	49.7	49.7	49.7	49.7	49.7
85°	26.2	28.8	31.4	34.0	36.6
87.5°	15.7	15.7	18.3	20.9	23.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)