

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: P561826

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561826
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-LD4-2STD-40-UNV-93-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5536.0 lumens
Efficiency: N/A
Efficacy: 83.1 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

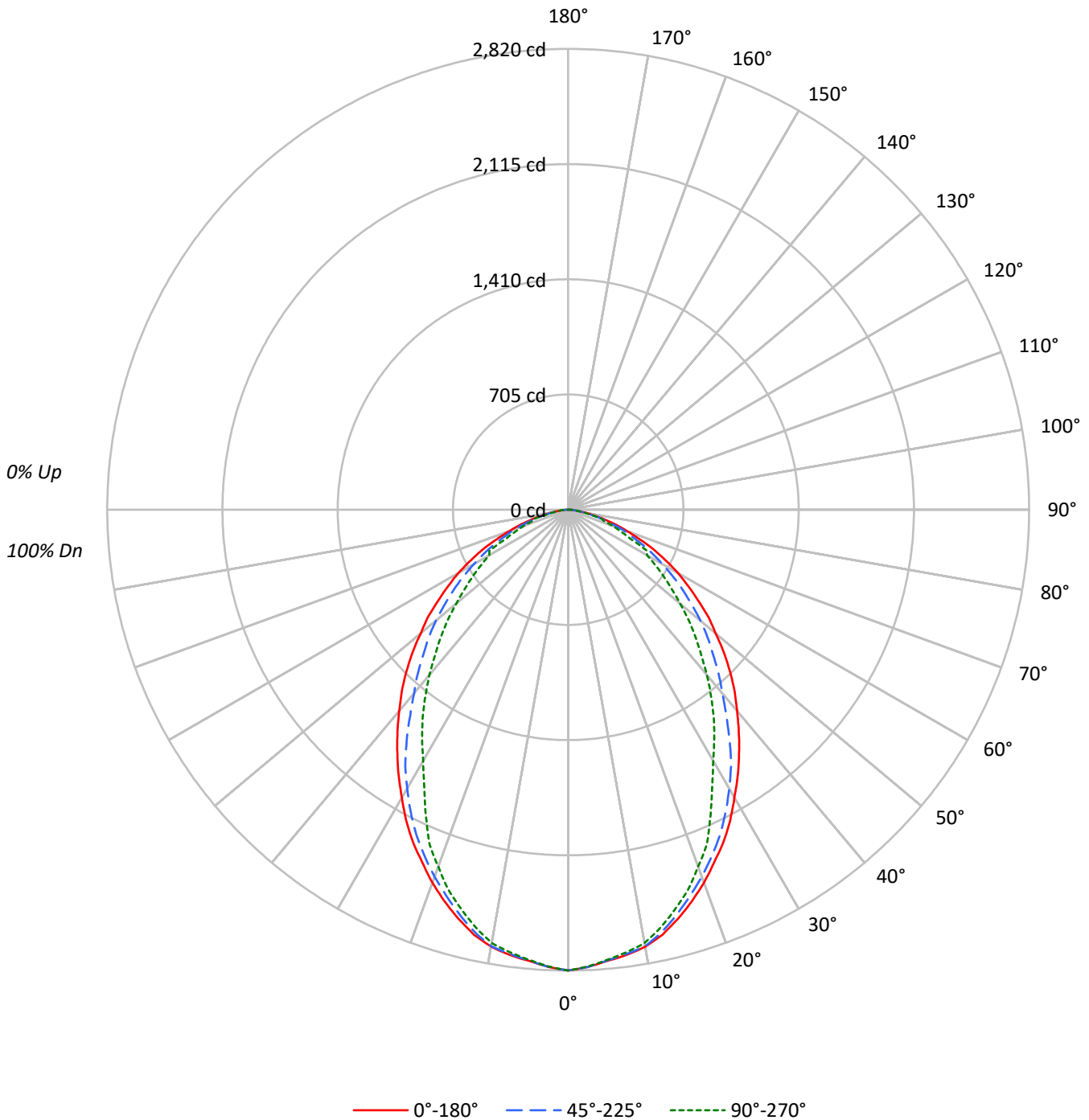
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7589	7589	7589
5°	7485	7477	7468
10°	7420	7412	7358
15°	7221	7148	7048
20°	6955	6843	6656
25°	6669	6524	6118
30°	6321	6119	5511
35°	5987	5655	5098
40°	5646	5153	4638
45°	5323	4764	4193
50°	4927	4422	3740
55°	4558	4007	3350
60°	4176	3580	3000
65°	3674	3135	2657
70°	3027	2744	2257
75°	2407	2101	2203
80°	1616	1516	1415
85°	1007	1207	1408

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5323 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	262.5	4.7
10°-20°	720.4	13.0
20°-30°	997.4	18.0
30°-40°	1063.5	19.2
40°-50°	970.2	17.5
50°-60°	760.1	13.7
60°-70°	495.4	8.9
70°-80°	219.5	4.0
80°-90°	47.1	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°	1980.3	35.8
0°-40°	3043.7	55.0
0°-60°	4774.0	86.2
0°-90°	5536.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5536.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2820	2820	2820	2820	2820	
5°	2771	2768	2768	2764	2764	263
15°	2592	2592	2566	2540	2530	729
25°	2246	2233	2197	2119	2060	1031
35°	1822	1809	1721	1591	1552	1139
45°	1399	1369	1252	1148	1102	1077
55°	972	942	854	753	714	871
65°	577	544	492	502	417	569
75°	232	215	202	192	212	248
85°	33	36	39	42	46	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2820.0	2820.0	2820.0	2820.0	2820.0
2.5°	2800.4	2800.4	2800.4	2797.1	2797.1
5°	2771.1	2767.8	2767.8	2764.5	2764.5
7.5°	2748.2	2745.0	2741.7	2738.5	2731.9
10°	2715.6	2715.6	2712.4	2696.1	2692.8
12.5°	2663.5	2660.2	2647.2	2624.4	2617.8
15°	2591.8	2591.8	2565.7	2539.6	2529.8
17.5°	2513.5	2510.3	2477.7	2451.6	2438.5
20°	2428.8	2422.2	2389.6	2347.3	2324.4
22.5°	2334.2	2334.2	2295.1	2239.7	2216.9
25°	2246.2	2233.2	2197.3	2119.0	2060.4
27.5°	2145.1	2125.6	2086.4	1975.6	1907.1
30°	2034.3	2024.5	1969.1	1825.6	1773.5
32.5°	1930.0	1913.7	1855.0	1705.0	1662.6
35°	1822.4	1809.3	1721.3	1590.9	1551.8
37.5°	1714.8	1698.5	1587.7	1483.3	1434.4
40°	1607.2	1587.7	1467.0	1372.5	1320.3
42.5°	1506.2	1480.1	1362.7	1261.6	1203.0
45°	1398.6	1369.2	1251.9	1147.5	1101.9
47.5°	1291.0	1264.9	1157.3	1049.7	997.6
50°	1176.9	1154.1	1056.3	948.7	893.3
52.5°	1082.3	1046.5	951.9	844.4	798.7
55°	971.5	942.2	854.1	753.1	714.0
57.5°	870.4	841.1	759.6	665.1	632.5
60°	775.9	733.5	665.1	583.6	557.5
62.5°	671.6	639.0	580.3	511.8	544.4
65°	577.0	544.4	492.3	502.1	417.3
67.5°	472.7	456.4	410.8	365.1	352.1
70°	384.7	365.1	348.8	299.9	286.9
72.5°	306.4	286.9	264.1	238.0	228.2
75°	231.5	215.2	202.1	192.3	211.9
77.5°	159.7	153.2	143.4	133.7	130.4
80°	104.3	101.1	97.8	94.5	91.3
82.5°	61.9	61.9	61.9	61.9	61.9
85°	32.6	35.9	39.1	42.4	45.6
87.5°	19.6	19.6	22.8	26.1	29.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)