

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: P562984

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562984
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-LD4-2STD-40-UNV-93-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5604.0 lumens
Efficiency: N/A
Efficacy: 84.1 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

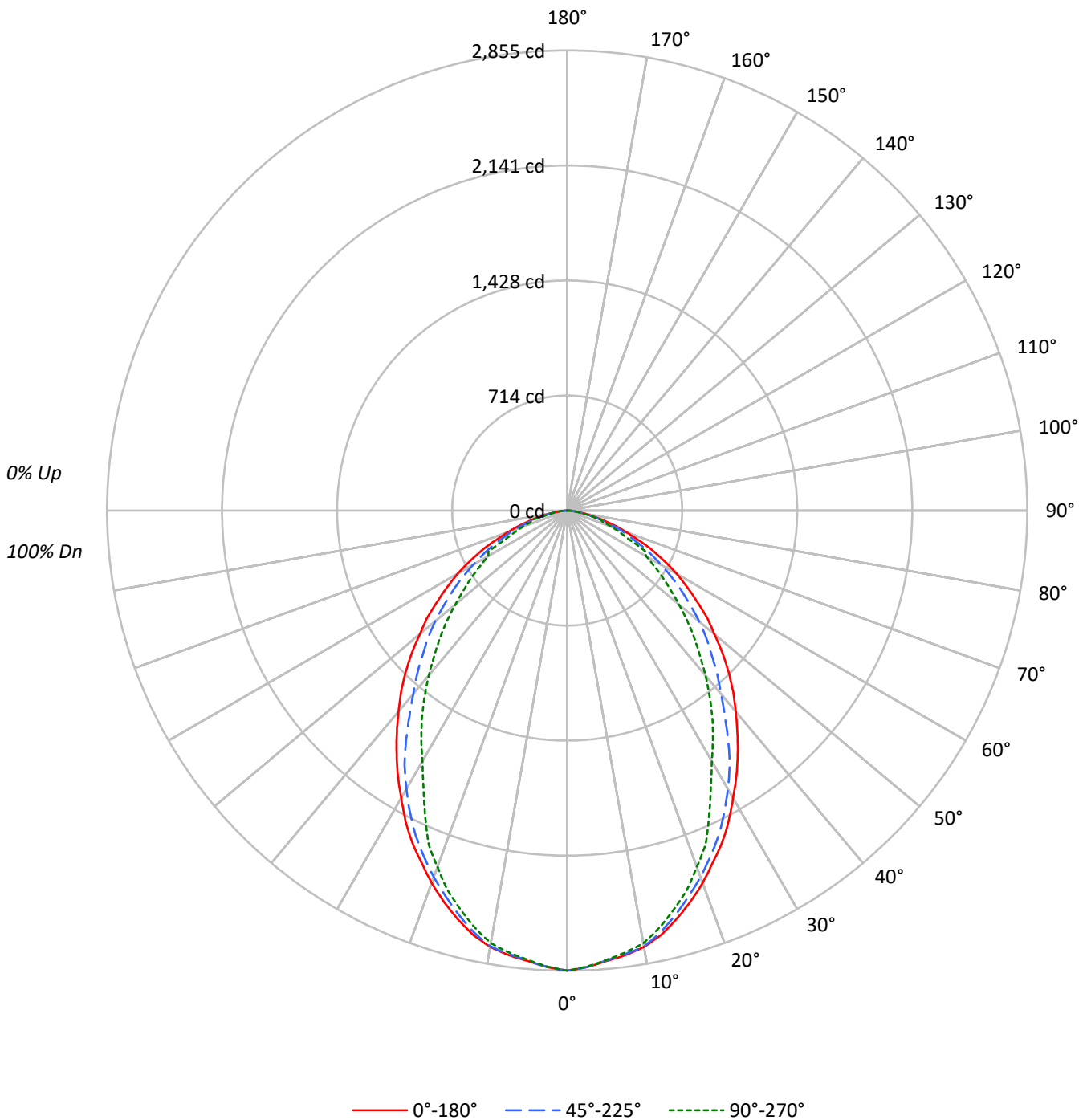
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3841	3841	3841
5°	3789	3784	3780
10°	3756	3751	3724
15°	3655	3618	3567
20°	3520	3464	3369
25°	3376	3302	3096
30°	3199	3097	2789
35°	3030	2862	2580
40°	2858	2608	2347
45°	2694	2411	2122
50°	2494	2238	1893
55°	2307	2028	1695
60°	2113	1812	1519
65°	1860	1586	1345
70°	1532	1389	1142
75°	1218	1064	1115
80°	818	767	716
85°	509	611	713

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2694 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	265.7	4.7
10°-20°	729.3	13.0
20°-30°	1009.6	18.0
30°-40°	1076.6	19.2
40°-50°	982.1	17.5
50°-60°	769.4	13.7
60°-70°	501.4	8.9
70°-80°	222.2	4.0
80°-90°	47.7	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°	2004.6	35.8
0°-40°	3081.2	55.0
0°-60°	4832.7	86.2
0°-90°	5604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5604.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2855	2855	2855	2855	2855	
5°	2805	2802	2802	2798	2798	266
15°	2624	2624	2597	2571	2561	738
25°	2274	2261	2224	2145	2086	1044
35°	1845	1832	1742	1610	1571	1153
45°	1416	1386	1267	1162	1115	1091
55°	983	954	865	762	723	882
65°	584	551	498	508	422	576
75°	234	218	205	195	214	251
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2854.6	2854.6	2854.6	2854.6	2854.6
2.5°	2834.8	2834.8	2834.8	2831.5	2831.5
5°	2805.1	2801.8	2801.8	2798.5	2798.5
7.5°	2782.0	2778.7	2775.4	2772.1	2765.5
10°	2749.0	2749.0	2745.7	2729.2	2725.9
12.5°	2696.2	2692.9	2679.7	2656.6	2650.0
15°	2623.6	2623.6	2597.2	2570.8	2560.9
17.5°	2544.4	2541.1	2508.1	2481.7	2468.5
20°	2458.6	2452.0	2419.0	2376.1	2353.0
22.5°	2362.9	2362.9	2323.3	2267.2	2244.1
25°	2273.8	2260.6	2224.3	2145.1	2085.7
27.5°	2171.5	2151.7	2112.1	1999.9	1930.6
30°	2059.3	2049.4	1993.3	1848.1	1795.3
32.5°	1953.7	1937.2	1877.8	1726.0	1683.1
35°	1844.8	1831.6	1742.5	1610.5	1570.9
37.5°	1735.9	1719.4	1607.2	1501.6	1452.1
40°	1627.0	1607.2	1485.1	1389.3	1336.5
42.5°	1524.7	1498.3	1379.4	1277.1	1217.7
45°	1415.8	1386.0	1267.2	1161.6	1115.4
47.5°	1306.8	1280.4	1171.5	1062.6	1009.8
50°	1191.3	1168.2	1069.2	960.3	904.2
52.5°	1095.6	1059.3	963.6	854.7	808.5
55°	983.4	953.7	864.6	762.3	722.7
57.5°	881.1	851.4	768.9	673.2	640.2
60°	785.4	742.5	673.2	590.7	564.3
62.5°	679.8	646.8	587.4	518.1	551.1
65°	584.1	551.1	498.3	508.2	422.4
67.5°	478.5	462.0	415.8	369.6	356.4
70°	389.4	369.6	353.1	303.6	290.4
72.5°	310.2	290.4	267.3	240.9	231.0
75°	234.3	217.8	204.6	194.7	214.5
77.5°	161.7	155.1	145.2	135.3	132.0
80°	105.6	102.3	99.0	95.7	92.4
82.5°	62.7	62.7	62.7	62.7	62.7
85°	33.0	36.3	39.6	42.9	46.2
87.5°	19.8	19.8	23.1	26.4	29.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)