

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: P563034

Luminaire Tested: FSR-24-4-LD4-2STD-50-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563034
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-50-UNV-82-94-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 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: 6501.0 lumens
Efficiency: N/A
Efficacy: 97.6 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

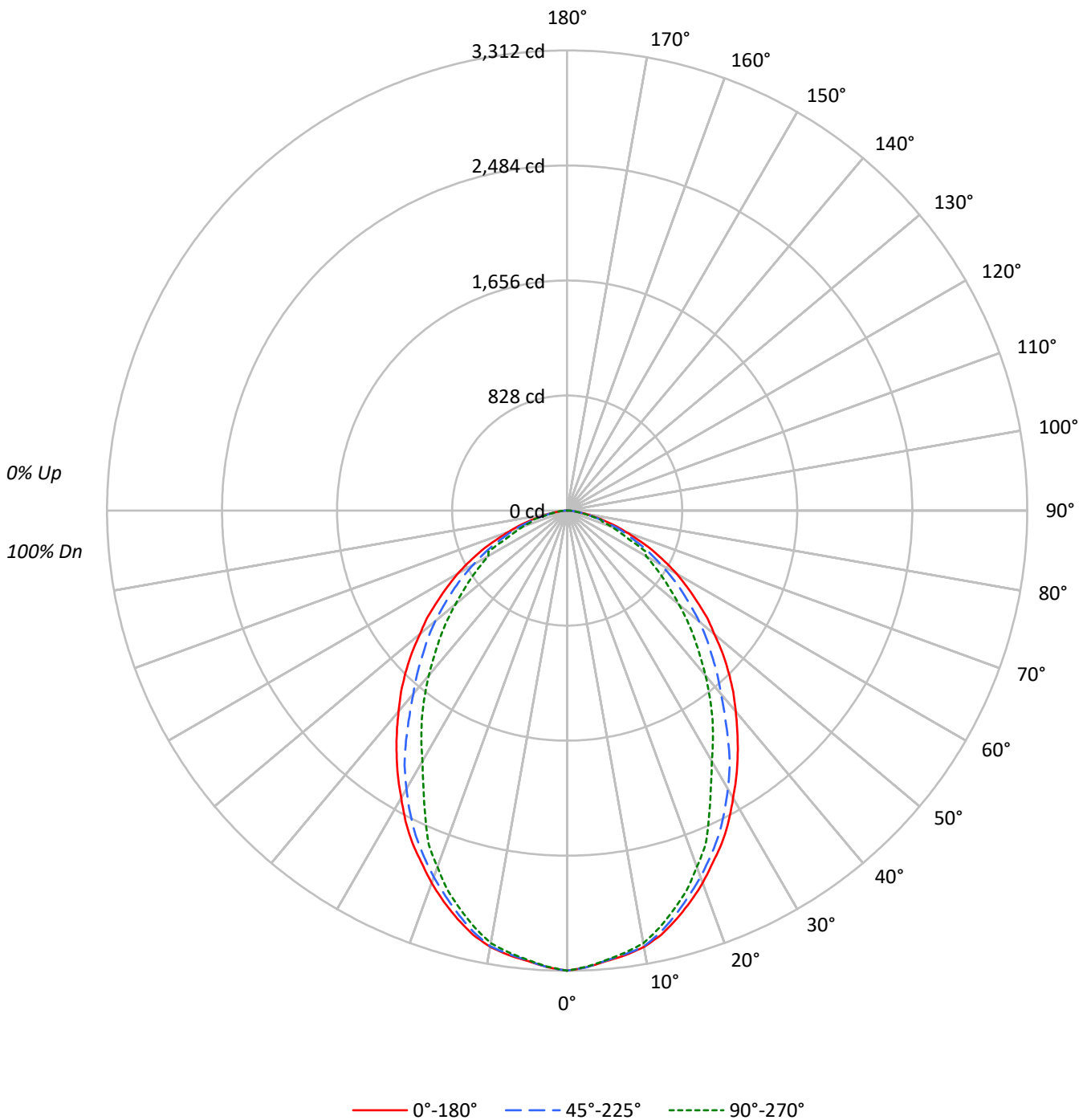
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4456	4456	4456
5°	4395	4390	4385
10°	4357	4352	4320
15°	4239	4197	4138
20°	4084	4018	3908
25°	3916	3831	3592
30°	3711	3592	3236
35°	3515	3320	2993
40°	3315	3026	2723
45°	3125	2797	2462
50°	2893	2596	2196
55°	2676	2353	1967
60°	2452	2102	1762
65°	2157	1840	1560
70°	1777	1611	1325
75°	1413	1234	1293
80°	949	890	831
85°	591	709	827

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3125 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	308.3	4.7
10°-20°	846.0	13.0
20°-30°	1171.2	18.0
30°-40°	1248.9	19.2
40°-50°	1139.3	17.5
50°-60°	892.6	13.7
60°-70°	581.7	8.9
70°-80°	257.7	4.0
80°-90°	55.3	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°	2325.5	35.8
0°-40°	3574.3	55.0
0°-60°	5606.2	86.2
0°-90°	6501.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6501.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3312	3312	3312	3312	3312	
5°	3254	3250	3250	3246	3246	309
15°	3044	3044	3013	2982	2971	856
25°	2638	2622	2580	2488	2420	1211
35°	2140	2125	2021	1868	1822	1338
45°	1642	1608	1470	1348	1294	1265
55°	1141	1106	1003	884	838	1023
65°	678	639	578	590	490	668
75°	272	253	237	226	249	291
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3311.5	3311.5	3311.5	3311.5	3311.5
2.5°	3288.6	3288.6	3288.6	3284.7	3284.7
5°	3254.1	3250.3	3250.3	3246.4	3246.4
7.5°	3227.3	3223.5	3219.6	3215.8	3208.2
10°	3189.0	3189.0	3185.2	3166.0	3162.2
12.5°	3127.8	3123.9	3108.6	3081.8	3074.2
15°	3043.5	3043.5	3012.9	2982.3	2970.8
17.5°	2951.7	2947.8	2909.5	2878.9	2863.6
20°	2852.1	2844.5	2806.2	2756.4	2729.6
22.5°	2741.1	2741.1	2695.2	2630.1	2603.3
25°	2637.7	2622.4	2580.3	2488.4	2419.5
27.5°	2519.1	2496.1	2450.1	2320.0	2239.6
30°	2388.9	2377.4	2312.3	2143.9	2082.6
32.5°	2266.4	2247.2	2178.3	2002.2	1952.5
35°	2140.0	2124.7	2021.4	1868.2	1822.3
37.5°	2013.7	1994.6	1864.4	1741.9	1684.5
40°	1887.4	1864.4	1722.8	1611.7	1550.5
42.5°	1768.7	1738.1	1600.3	1481.6	1412.7
45°	1642.4	1607.9	1470.1	1347.6	1294.0
47.5°	1516.0	1485.4	1359.1	1232.7	1171.5
50°	1382.0	1355.2	1240.4	1114.0	1049.0
52.5°	1271.0	1228.9	1117.9	991.5	937.9
55°	1140.8	1106.4	1003.0	884.3	838.4
57.5°	1022.2	987.7	892.0	781.0	742.7
60°	911.1	861.4	781.0	685.3	654.6
62.5°	788.6	750.4	681.4	601.1	639.3
65°	677.6	639.3	578.1	589.6	490.0
67.5°	555.1	536.0	482.4	428.8	413.5
70°	451.7	428.8	409.6	352.2	336.9
72.5°	359.9	336.9	310.1	279.5	268.0
75°	271.8	252.7	237.4	225.9	248.8
77.5°	187.6	179.9	168.4	157.0	153.1
80°	122.5	118.7	114.9	111.0	107.2
82.5°	72.7	72.7	72.7	72.7	72.7
85°	38.3	42.1	45.9	49.8	53.6
87.5°	23.0	23.0	26.8	30.6	34.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)