

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: P563163

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563163
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-LD4-3HI-40-UNV-82-94-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13519.0 lumens
Efficiency: N/A
Efficacy: 104.3 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

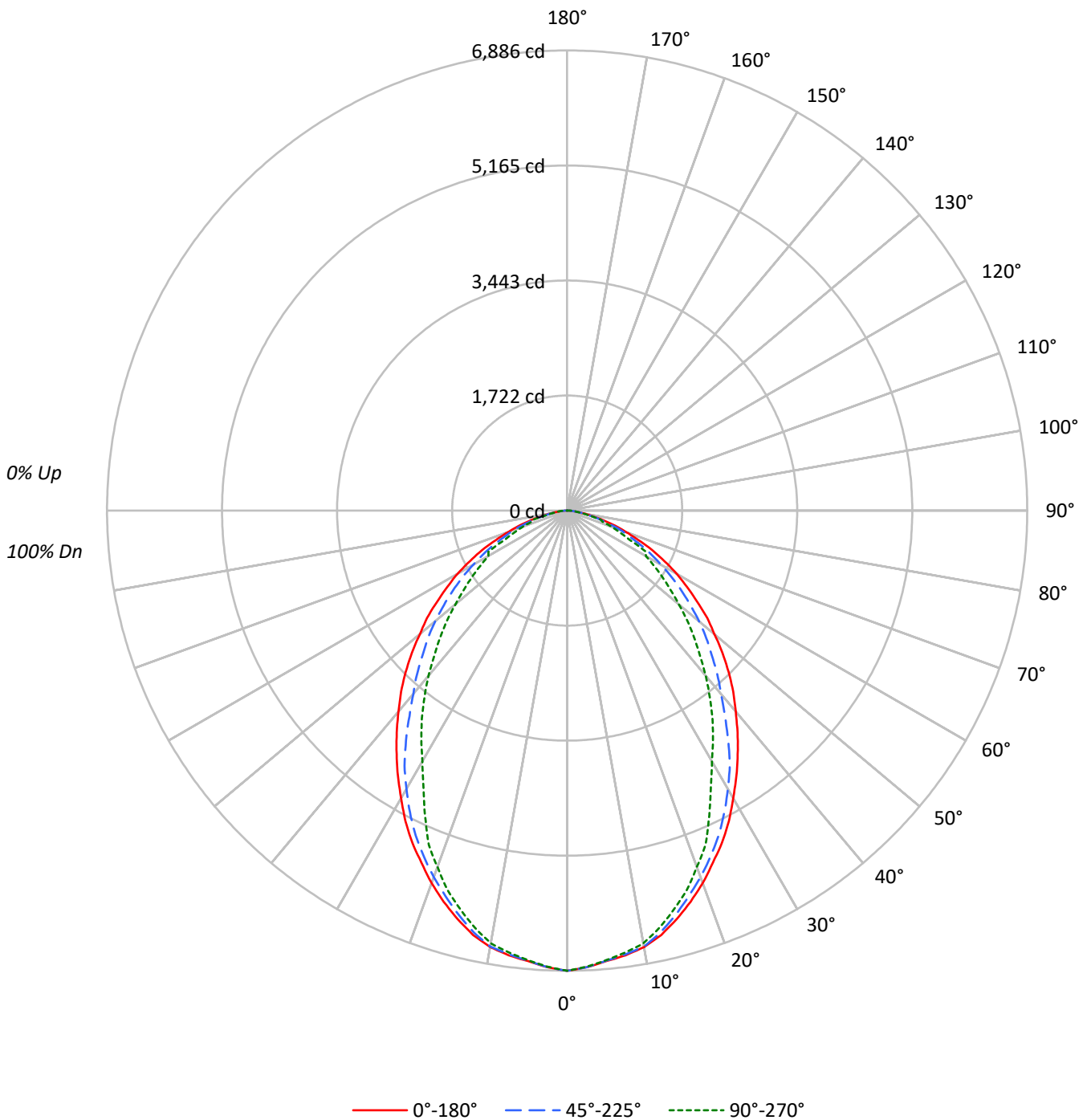
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9266	9266	9266
5°	9140	9129	9118
10°	9060	9050	8984
15°	8816	8727	8606
20°	8492	8356	8128
25°	8143	7966	7470
30°	7718	7471	6729
35°	7310	6904	6224
40°	6894	6292	5663
45°	6499	5817	5120
50°	6016	5399	4566
55°	5565	4893	4090
60°	5099	4370	3663
65°	4486	3827	3244
70°	3696	3351	2756
75°	2938	2566	2690
80°	1974	1850	1727
85°	1229	1474	1721

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6499 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	641.0	4.7
10°-20°	1759.3	13.0
20°-30°	2435.6	18.0
30°-40°	2597.0	19.2
40°-50°	2369.2	17.5
50°-60°	1856.1	13.7
60°-70°	1209.7	8.9
70°-80°	536.0	4.0
80°-90°	115.1	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°	4835.9	35.8
0°-40°	7432.9	55.0
0°-60°	11658.2	86.2
0°-90°	13519.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13519.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6886	6886	6886	6886	6886	
5°	6767	6759	6759	6751	6751	642
15°	6329	6329	6265	6202	6178	1779
25°	5485	5453	5366	5175	5031	2518
35°	4450	4418	4204	3885	3790	2782
45°	3415	3344	3057	2802	2691	2631
55°	2372	2301	2086	1839	1744	2128
65°	1409	1330	1202	1226	1019	1389
75°	565	525	494	470	518	606
85°	80	88	96	104	112	110
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6886.4	6886.4	6886.4	6886.4	6886.4
2.5°	6838.6	6838.6	6838.6	6830.7	6830.7
5°	6767.0	6759.0	6759.0	6751.1	6751.1
7.5°	6711.3	6703.3	6695.3	6687.4	6671.4
10°	6631.6	6631.6	6623.7	6583.9	6575.9
12.5°	6504.3	6496.3	6464.5	6408.7	6392.8
15°	6329.1	6329.1	6265.4	6201.7	6177.9
17.5°	6138.0	6130.1	6050.5	5986.8	5954.9
20°	5931.1	5915.1	5835.5	5732.0	5676.3
22.5°	5700.2	5700.2	5604.7	5469.3	5413.6
25°	5485.2	5453.4	5365.8	5174.7	5031.4
27.5°	5238.4	5190.7	5095.1	4824.5	4657.3
30°	4967.8	4943.9	4808.5	4458.2	4330.9
32.5°	4713.0	4673.2	4529.9	4163.7	4060.2
35°	4450.3	4418.4	4203.5	3885.0	3789.5
37.5°	4187.6	4147.8	3877.1	3622.3	3502.9
40°	3924.8	3877.1	3582.5	3351.6	3224.3
42.5°	3678.1	3614.4	3327.8	3081.0	2937.7
45°	3415.3	3343.7	3057.1	2802.3	2690.9
47.5°	3152.6	3088.9	2826.2	2563.5	2436.1
50°	2874.0	2818.2	2579.4	2316.7	2181.4
52.5°	2643.1	2555.5	2324.7	2061.9	1950.5
55°	2372.4	2300.8	2085.8	1839.0	1743.5
57.5°	2125.6	2054.0	1854.9	1624.1	1544.5
60°	1894.8	1791.3	1624.1	1425.0	1361.4
62.5°	1640.0	1560.4	1417.1	1249.9	1329.5
65°	1409.1	1329.5	1202.1	1226.0	1019.0
67.5°	1154.4	1114.6	1003.1	891.6	859.8
70°	939.4	891.6	851.8	732.4	700.6
72.5°	748.3	700.6	644.9	581.2	557.3
75°	565.2	525.4	493.6	469.7	517.5
77.5°	390.1	374.2	350.3	326.4	318.4
80°	254.8	246.8	238.8	230.9	222.9
82.5°	151.3	151.3	151.3	151.3	151.3
85°	79.6	87.6	95.5	103.5	111.5
87.5°	47.8	47.8	55.7	63.7	71.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)