

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: P563113

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563113
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-35-UNV-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12149.0 lumens
Efficiency: N/A
Efficacy: 93.7 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

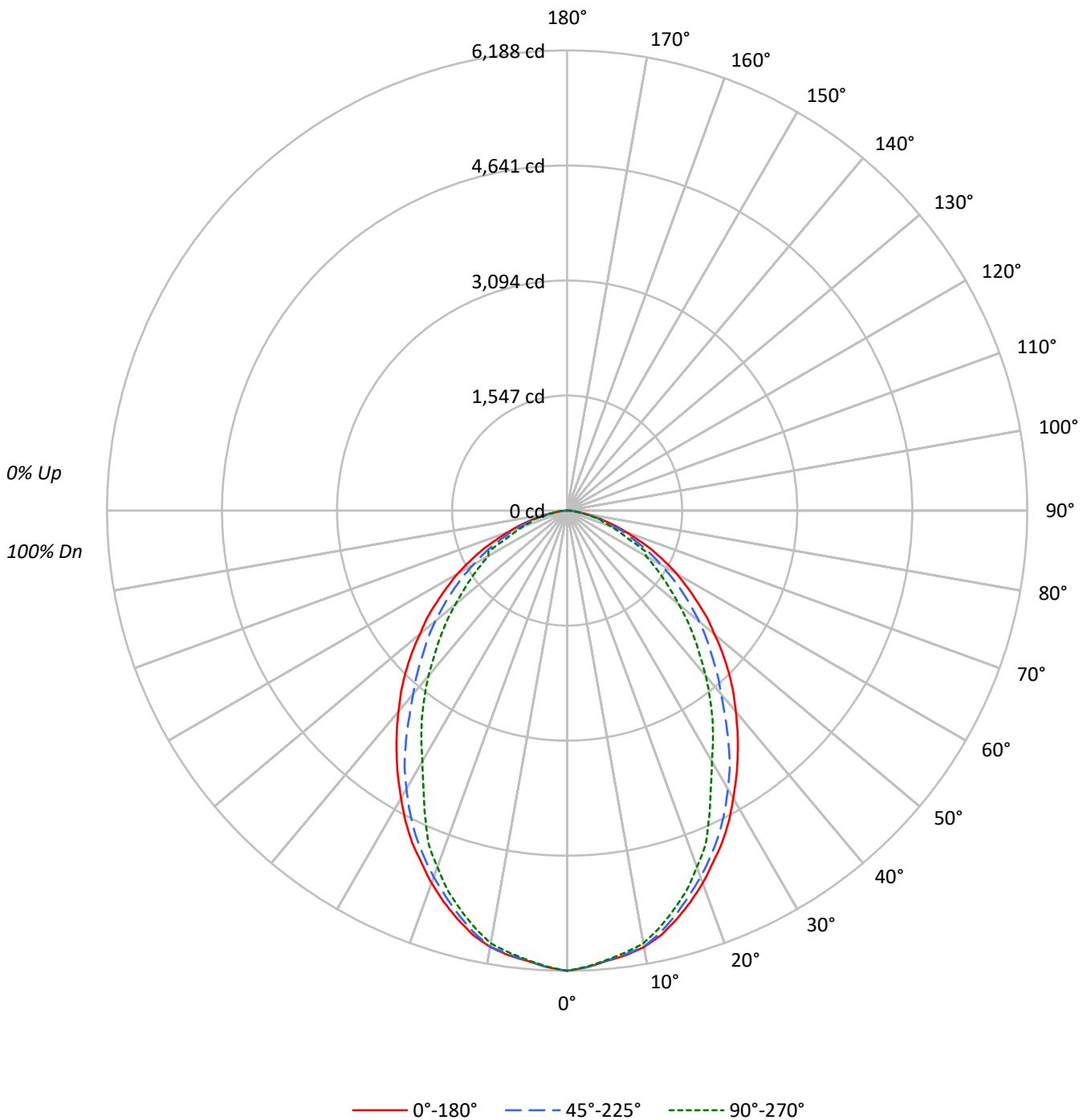
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8327	8327	8327
5°	8213	8204	8194
10°	8142	8132	8074
15°	7923	7843	7733
20°	7632	7509	7304
25°	7318	7159	6713
30°	6936	6714	6047
35°	6569	6205	5594
40°	6195	5655	5089
45°	5840	5228	4601
50°	5406	4852	4103
55°	5001	4397	3675
60°	4582	3927	3292
65°	4032	3439	2916
70°	3321	3011	2477
75°	2641	2306	2417
80°	1774	1663	1552
85°	1104	1326	1547

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5840 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	576.1	4.7
10°-20°	1581.0	13.0
20°-30°	2188.8	18.0
30°-40°	2333.8	19.2
40°-50°	2129.1	17.5
50°-60°	1668.0	13.7
60°-70°	1087.1	8.9
70°-80°	481.7	4.0
80°-90°	103.4	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°	4345.8	35.8
0°-40°	6679.6	55.0
0°-60°	10476.8	86.2
0°-90°	12149.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12149.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6188	6188	6188	6188	6188	
5°	6081	6074	6074	6067	6067	577
15°	5688	5688	5630	5573	5552	1599
25°	4929	4901	4822	4650	4522	2263
35°	3999	3971	3778	3491	3406	2500
45°	3069	3005	2747	2518	2418	2364
55°	2132	2068	1874	1653	1567	1912
65°	1266	1195	1080	1102	916	1248
75°	508	472	444	422	465	544
85°	72	79	86	93	100	99
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6188.5	6188.5	6188.5	6188.5	6188.5
2.5°	6145.6	6145.6	6145.6	6138.5	6138.5
5°	6081.2	6074.1	6074.1	6066.9	6066.9
7.5°	6031.1	6024.0	6016.8	6009.7	5995.4
10°	5959.6	5959.6	5952.4	5916.7	5909.5
12.5°	5845.1	5838.0	5809.4	5759.3	5745.0
15°	5687.7	5687.7	5630.5	5573.3	5551.8
17.5°	5516.0	5508.9	5437.3	5380.1	5351.5
20°	5330.0	5315.7	5244.2	5151.2	5101.1
22.5°	5122.5	5122.5	5036.7	4915.1	4865.0
25°	4929.4	4900.7	4822.1	4650.3	4521.6
27.5°	4707.6	4664.7	4578.8	4335.6	4185.3
30°	4464.3	4442.9	4321.2	4006.5	3892.0
32.5°	4235.4	4199.6	4070.8	3741.7	3648.7
35°	3999.3	3970.7	3777.5	3491.3	3405.5
37.5°	3763.2	3727.4	3484.2	3255.2	3147.9
40°	3527.1	3484.2	3219.5	3012.0	2897.5
42.5°	3305.3	3248.1	2990.5	2768.7	2640.0
45°	3069.2	3004.8	2747.3	2518.3	2418.2
47.5°	2833.1	2775.9	2539.8	2303.7	2189.2
50°	2582.7	2532.7	2318.0	2081.9	1960.3
52.5°	2375.3	2296.6	2089.1	1853.0	1752.8
55°	2132.0	2067.6	1874.4	1652.7	1566.8
57.5°	1910.2	1845.8	1667.0	1459.5	1387.9
60°	1702.7	1609.7	1459.5	1280.6	1223.4
62.5°	1473.8	1402.3	1273.5	1123.2	1194.8
65°	1266.3	1194.8	1080.3	1101.8	915.8
67.5°	1037.4	1001.6	901.5	801.3	772.7
70°	844.2	801.3	765.5	658.2	629.6
72.5°	672.5	629.6	579.5	522.3	500.8
75°	508.0	472.2	443.6	422.1	465.0
77.5°	350.6	336.3	314.8	293.3	286.2
80°	228.9	221.8	214.6	207.5	200.3
82.5°	135.9	135.9	135.9	135.9	135.9
85°	71.5	78.7	85.9	93.0	100.2
87.5°	42.9	42.9	50.1	57.2	64.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)