

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: P563084

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563084
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-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11315.0 lumens
Efficiency: N/A
Efficacy: 87.3 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

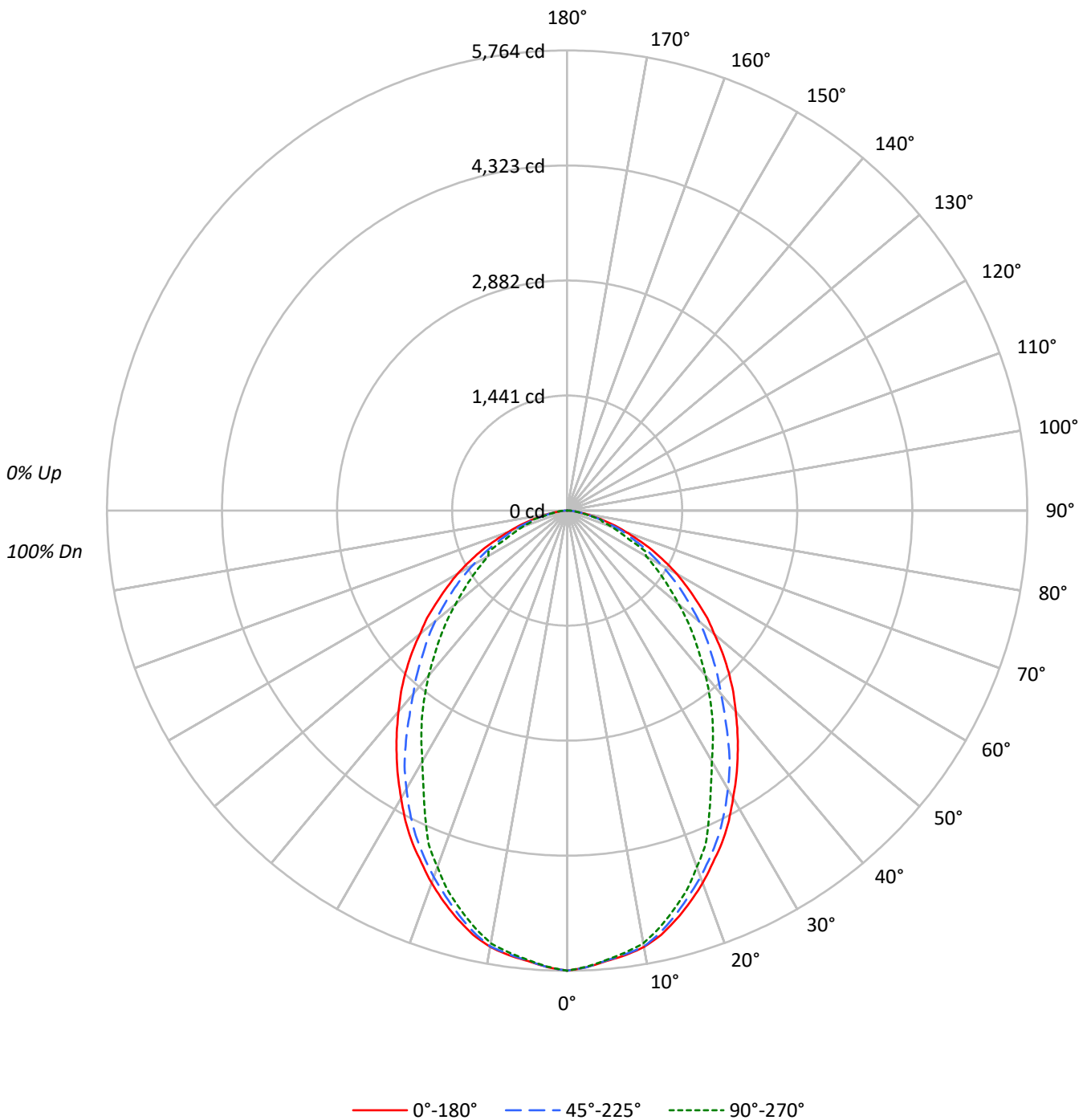
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7755	7755	7755
5°	7650	7641	7632
10°	7583	7574	7520
15°	7379	7305	7203
20°	7108	6993	6803
25°	6816	6667	6252
30°	6460	6253	5632
35°	6118	5779	5210
40°	5770	5267	4740
45°	5439	4869	4286
50°	5035	4519	3822
55°	4658	4095	3423
60°	4268	3658	3066
65°	3755	3203	2715
70°	3093	2805	2307
75°	2459	2148	2252
80°	1652	1549	1446
85°	1028	1235	1440

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5439 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	536.5	4.7
10°-20°	1472.4	13.0
20°-30°	2038.5	18.0
30°-40°	2173.6	19.2
40°-50°	1983.0	17.5
50°-60°	1553.5	13.7
60°-70°	1012.5	8.9
70°-80°	448.6	4.0
80°-90°	96.3	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°	4047.5	35.8
0°-40°	6221.1	55.0
0°-60°	9757.6	86.2
0°-90°	11315.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11315.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5764	5764	5764	5764	5764	
5°	5664	5657	5657	5650	5650	538
15°	5297	5297	5244	5191	5171	1489
25°	4591	4564	4491	4331	4211	2108
35°	3725	3698	3518	3252	3172	2329
45°	2858	2799	2559	2346	2252	2202
55°	1986	1926	1746	1539	1459	1781
65°	1179	1113	1006	1026	853	1162
75°	473	440	413	393	433	507
85°	67	73	80	87	93	92
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5763.7	5763.7	5763.7	5763.7	5763.7
2.5°	5723.7	5723.7	5723.7	5717.1	5717.1
5°	5663.8	5657.1	5657.1	5650.4	5650.4
7.5°	5617.1	5610.5	5603.8	5597.1	5583.8
10°	5550.5	5550.5	5543.8	5510.5	5503.8
12.5°	5443.9	5437.2	5410.6	5363.9	5350.6
15°	5297.3	5297.3	5244.0	5190.7	5170.7
17.5°	5137.4	5130.7	5064.1	5010.8	4984.1
20°	4964.1	4950.8	4884.2	4797.5	4750.9
22.5°	4770.9	4770.9	4690.9	4577.7	4531.0
25°	4591.0	4564.3	4491.0	4331.1	4211.2
27.5°	4384.4	4344.4	4264.5	4037.9	3898.0
30°	4157.9	4137.9	4024.6	3731.4	3624.8
32.5°	3944.6	3911.3	3791.4	3484.9	3398.3
35°	3724.8	3698.1	3518.2	3251.7	3171.7
37.5°	3504.9	3471.6	3245.0	3031.8	2931.8
40°	3285.0	3245.0	2998.5	2805.2	2698.6
42.5°	3078.4	3025.1	2785.2	2578.7	2458.7
45°	2858.5	2798.6	2558.7	2345.5	2252.2
47.5°	2638.6	2585.3	2365.5	2145.6	2039.0
50°	2405.4	2358.8	2158.9	1939.0	1825.7
52.5°	2212.2	2138.9	1945.7	1725.8	1632.5
55°	1985.6	1925.7	1745.8	1539.2	1459.3
57.5°	1779.1	1719.1	1552.5	1359.3	1292.7
60°	1585.9	1499.2	1359.3	1192.7	1139.4
62.5°	1372.6	1306.0	1186.1	1046.1	1112.8
65°	1179.4	1112.8	1006.2	1026.1	852.9
67.5°	966.2	932.9	839.6	746.3	719.6
70°	786.3	746.3	713.0	613.0	586.4
72.5°	626.3	586.4	539.7	486.4	466.4
75°	473.1	439.8	413.1	393.1	433.1
77.5°	326.5	313.2	293.2	273.2	266.5
80°	213.2	206.6	199.9	193.2	186.6
82.5°	126.6	126.6	126.6	126.6	126.6
85°	66.6	73.3	80.0	86.6	93.3
87.5°	40.0	40.0	46.6	53.3	60.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)