

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: P564032

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-81-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564032
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-LD4-4STD-35-UNV-81-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12408.0 lumens
Efficiency: N/A
Efficacy: 93.2 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

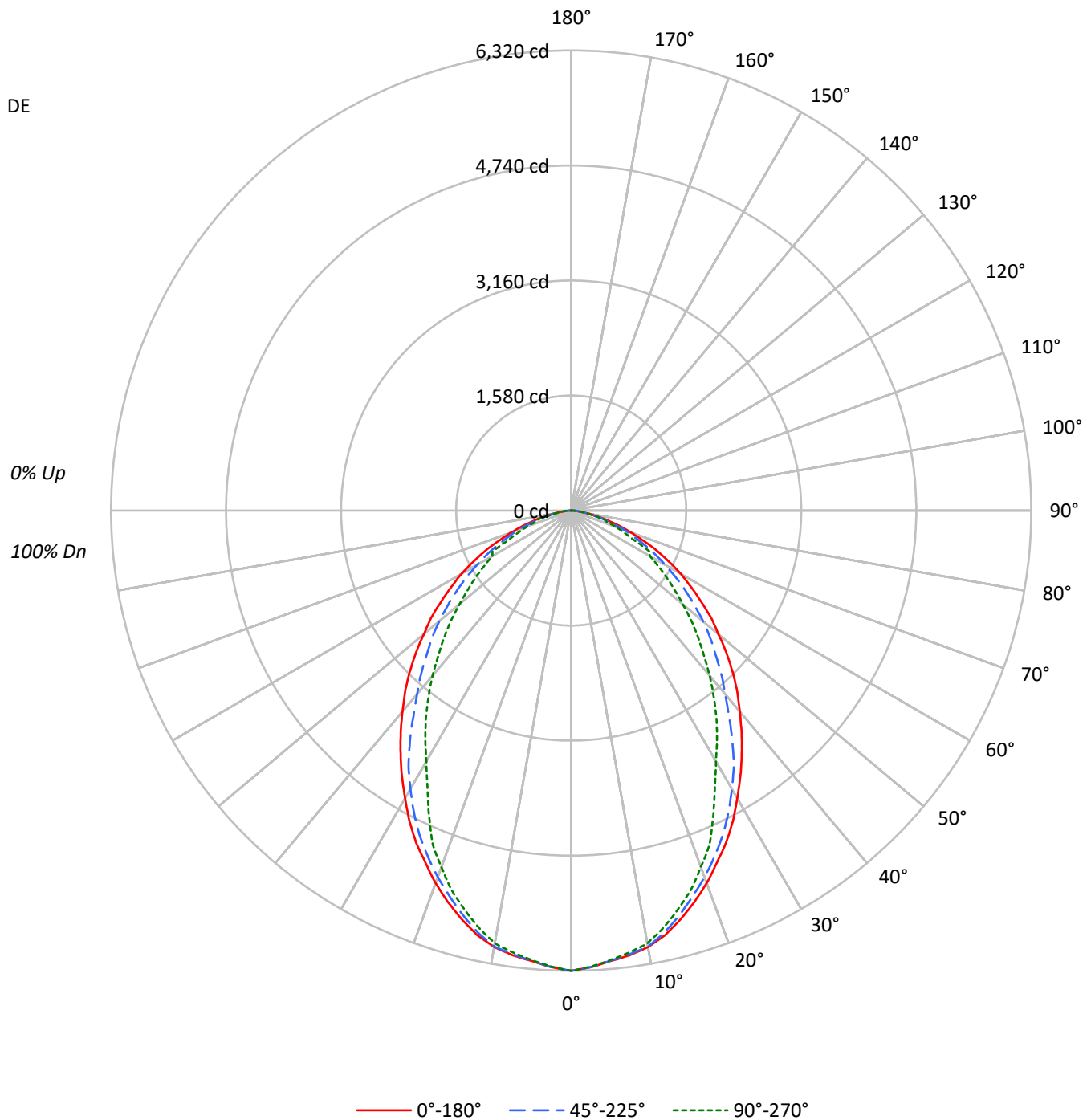
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8504	8504	8504
5°	8389	8379	8369
10°	8316	8306	8246
15°	8092	8010	7898
20°	7794	7669	7460
25°	7474	7311	6856
30°	7084	6857	6176
35°	6709	6337	5713
40°	6327	5775	5198
45°	5965	5339	4699
50°	5521	4955	4191
55°	5108	4491	3754
60°	4680	4011	3362
65°	4117	3513	2978
70°	3392	3076	2530
75°	2697	2355	2469
80°	1812	1698	1585
85°	1129	1354	1579

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5965 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	588.4	4.7
10°-20°	1614.7	13.0
20°-30°	2235.4	18.0
30°-40°	2383.6	19.2
40°-50°	2174.5	17.5
50°-60°	1703.6	13.7
60°-70°	1110.3	8.9
70°-80°	491.9	4.0
80°-90°	105.6	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°	4438.4	35.8
0°-40°	6822.0	55.0
0°-60°	10700.2	86.2
0°-90°	12408.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12408.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6320	6320	6320	6320	6320	
5°	6211	6204	6204	6196	6196	590
15°	5809	5809	5750	5692	5670	1633
25°	5034	5005	4925	4750	4618	2311
35°	4085	4055	3858	3566	3478	2554
45°	3135	3069	2806	2572	2470	2415
55°	2178	2112	1914	1688	1600	1953
65°	1293	1220	1103	1125	935	1275
75°	519	482	453	431	475	556
85°	73	80	88	95	102	101
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6320.5	6320.5	6320.5	6320.5	6320.5
2.5°	6276.6	6276.6	6276.6	6269.3	6269.3
5°	6210.9	6203.6	6203.6	6196.3	6196.3
7.5°	6159.7	6152.4	6145.1	6137.8	6123.2
10°	6086.6	6086.6	6079.3	6042.8	6035.5
12.5°	5969.7	5962.4	5933.2	5882.1	5867.4
15°	5809.0	5809.0	5750.5	5692.1	5670.2
17.5°	5633.6	5626.3	5553.2	5494.8	5465.6
20°	5443.6	5429.0	5356.0	5261.0	5209.8
22.5°	5231.7	5231.7	5144.1	5019.8	4968.7
25°	5034.5	5005.2	4924.9	4749.5	4618.0
27.5°	4807.9	4764.1	4676.4	4428.0	4274.5
30°	4559.5	4537.6	4413.4	4091.9	3975.0
32.5°	4325.7	4289.2	4157.6	3821.5	3726.5
35°	4084.6	4055.3	3858.0	3565.8	3478.1
37.5°	3843.4	3806.9	3558.5	3324.6	3215.0
40°	3602.3	3558.5	3288.1	3076.2	2959.3
42.5°	3375.8	3317.3	3054.3	2827.8	2696.2
45°	3134.7	3068.9	2805.9	2572.0	2469.7
47.5°	2893.5	2835.1	2593.9	2352.8	2235.9
50°	2637.8	2586.6	2367.4	2126.3	2002.1
52.5°	2425.9	2345.5	2133.6	1892.5	1790.2
55°	2177.5	2111.7	1914.4	1687.9	1600.2
57.5°	1950.9	1885.2	1702.5	1490.6	1417.5
60°	1739.0	1644.1	1490.6	1307.9	1249.5
62.5°	1505.2	1432.2	1300.6	1147.2	1220.3
65°	1293.3	1220.3	1103.3	1125.3	935.3
67.5°	1059.5	1023.0	920.7	818.4	789.1
70°	862.2	818.4	781.8	672.2	643.0
72.5°	686.8	643.0	591.9	533.4	511.5
75°	518.8	482.3	453.0	431.1	474.9
77.5°	358.0	343.4	321.5	299.6	292.3
80°	233.8	226.5	219.2	211.9	204.6
82.5°	138.8	138.8	138.8	138.8	138.8
85°	73.1	80.4	87.7	95.0	102.3
87.5°	43.8	43.8	51.1	58.5	65.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)