

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: P563469

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563469
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-LD4-3STD-35-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11024.0 lumens
Efficiency: N/A
Efficacy: 110.4 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

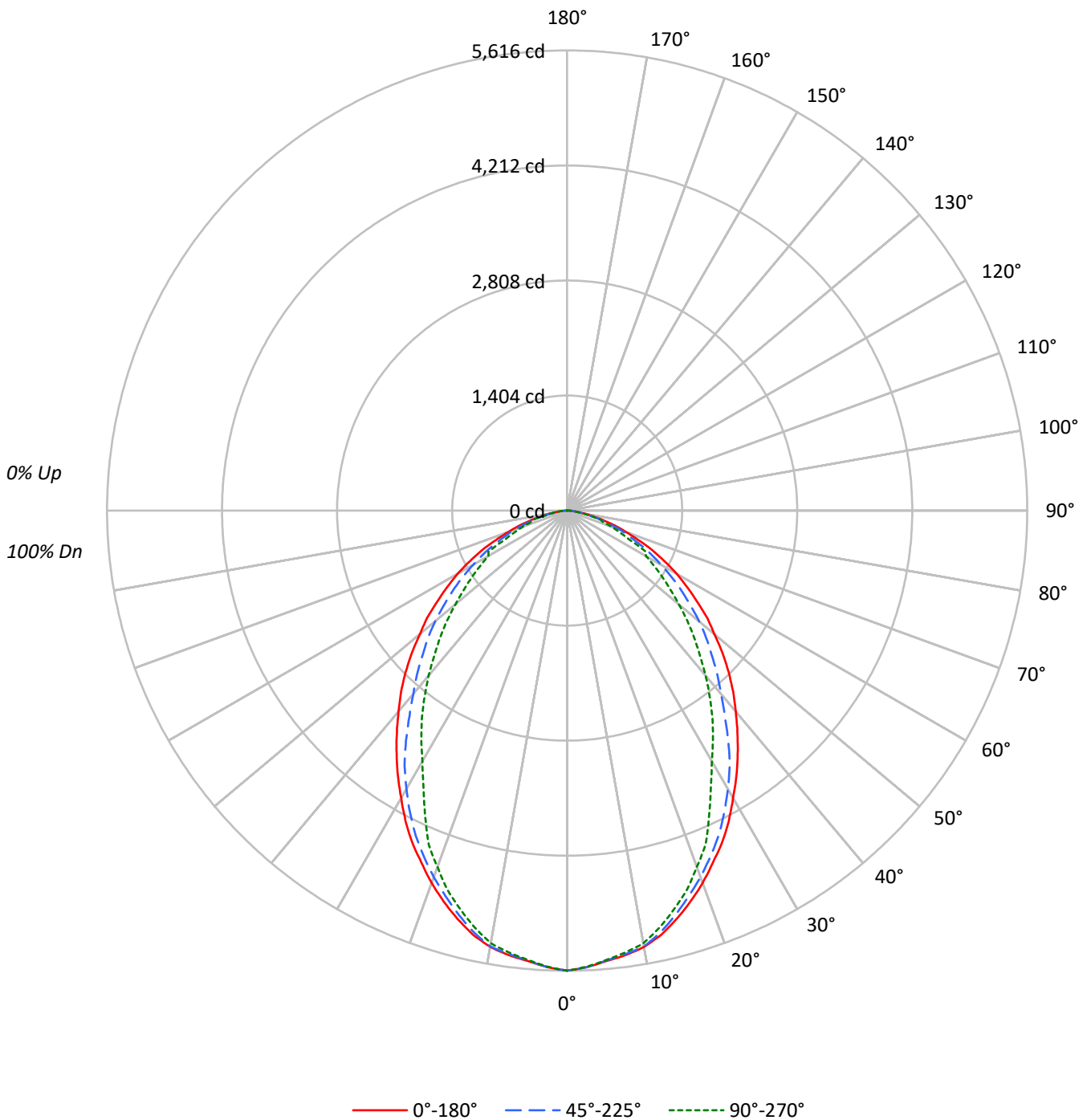
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7556	7556	7556
5°	7453	7444	7435
10°	7388	7379	7326
15°	7189	7117	7017
20°	6925	6813	6628
25°	6640	6496	6091
30°	6294	6092	5487
35°	5961	5630	5076
40°	5621	5131	4618
45°	5299	4744	4175
50°	4906	4403	3723
55°	4538	3990	3335
60°	4158	3564	2987
65°	3658	3121	2646
70°	3013	2733	2247
75°	2396	2092	2194
80°	1609	1509	1409
85°	1002	1203	1403

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5299 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	522.7	4.7
10°-20°	1434.6	13.0
20°-30°	1986.1	18.0
30°-40°	2117.7	19.2
40°-50°	1932.0	17.5
50°-60°	1513.6	13.7
60°-70°	986.5	8.9
70°-80°	437.0	4.0
80°-90°	93.8	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°	3943.4	35.8
0°-40°	6061.1	55.0
0°-60°	9506.6	86.2
0°-90°	11024.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11024.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5616	5616	5616	5616	5616	
5°	5518	5512	5512	5505	5505	524
15°	5161	5161	5109	5057	5038	1451
25°	4473	4447	4376	4220	4103	2054
35°	3629	3603	3428	3168	3090	2269
45°	2785	2727	2493	2285	2194	2145
55°	1935	1876	1701	1500	1422	1735
65°	1149	1084	980	1000	831	1132
75°	461	428	402	383	422	494
85°	65	71	78	84	91	90
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5615.5	5615.5	5615.5	5615.5	5615.5
2.5°	5576.5	5576.5	5576.5	5570.0	5570.0
5°	5518.1	5511.6	5511.6	5505.1	5505.1
7.5°	5472.7	5466.2	5459.7	5453.2	5440.2
10°	5407.7	5407.7	5401.2	5368.8	5362.3
12.5°	5303.9	5297.4	5271.4	5226.0	5213.0
15°	5161.0	5161.0	5109.1	5057.2	5037.7
17.5°	5005.2	4998.7	4933.8	4881.9	4855.9
20°	4836.5	4823.5	4758.5	4674.2	4628.7
22.5°	4648.2	4648.2	4570.3	4459.9	4414.5
25°	4472.9	4446.9	4375.5	4219.7	4102.9
27.5°	4271.7	4232.7	4154.8	3934.1	3797.8
30°	4050.9	4031.5	3921.1	3635.5	3531.6
32.5°	3843.2	3810.7	3693.9	3395.3	3310.9
35°	3629.0	3603.0	3427.7	3168.0	3090.1
37.5°	3414.7	3382.3	3161.5	2953.8	2856.4
40°	3200.5	3161.5	2921.3	2733.1	2629.2
42.5°	2999.2	2947.3	2713.6	2512.4	2395.5
45°	2785.0	2726.6	2492.9	2285.1	2194.3
47.5°	2570.8	2518.9	2304.6	2090.4	1986.5
50°	2343.6	2298.1	2103.4	1889.1	1778.8
52.5°	2155.3	2083.9	1895.6	1681.4	1590.5
55°	1934.6	1876.2	1700.9	1499.6	1421.7
57.5°	1733.3	1674.9	1512.6	1324.3	1259.4
60°	1545.1	1460.7	1324.3	1162.0	1110.1
62.5°	1337.3	1272.4	1155.6	1019.2	1084.1
65°	1149.1	1084.1	980.3	999.7	831.0
67.5°	941.3	908.9	818.0	727.1	701.1
70°	766.0	727.1	694.6	597.3	571.3
72.5°	610.2	571.3	525.8	473.9	454.4
75°	460.9	428.5	402.5	383.0	422.0
77.5°	318.1	305.1	285.6	266.2	259.7
80°	207.7	201.2	194.8	188.3	181.8
82.5°	123.3	123.3	123.3	123.3	123.3
85°	64.9	71.4	77.9	84.4	90.9
87.5°	39.0	39.0	45.4	51.9	58.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)