

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: P563559

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563559
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-40-UNV-93-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11109.0 lumens
Efficiency: N/A
Efficacy: 111.2 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

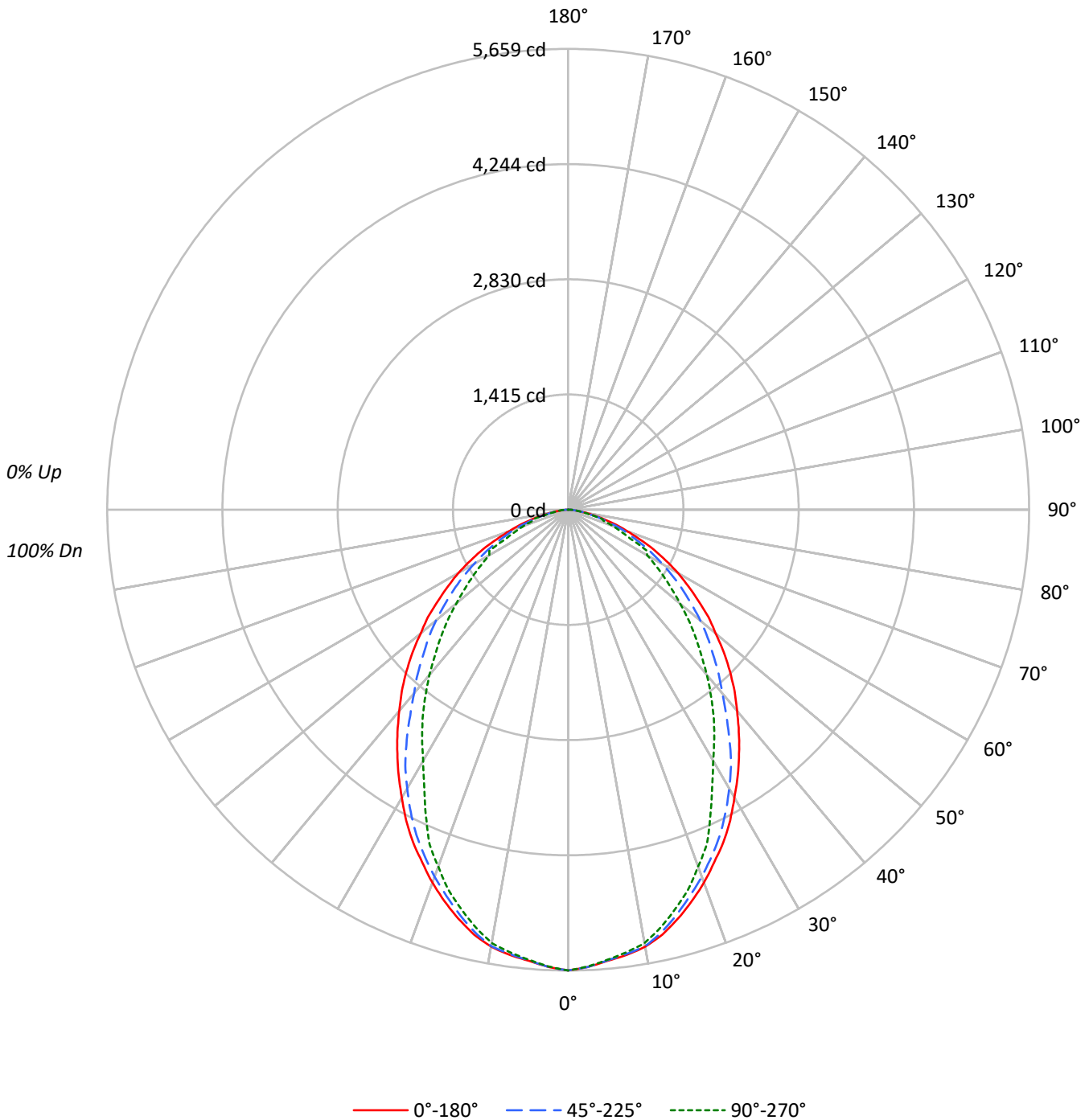
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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												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°	7614	7614	7614
5°	7510	7502	7493
10°	7445	7436	7383
15°	7244	7172	7071
20°	6978	6866	6679
25°	6692	6546	6138
30°	6342	6139	5529
35°	6007	5673	5115
40°	5665	5171	4654
45°	5340	4780	4207
50°	4943	4437	3752
55°	4573	4021	3361
60°	4190	3591	3010
65°	3686	3145	2666
70°	3037	2754	2265
75°	2415	2109	2210
80°	1622	1521	1420
85°	1010	1212	1414

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5340 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	526.8	4.7
10°-20°	1445.6	13.0
20°-30°	2001.4	18.0
30°-40°	2134.1	19.2
40°-50°	1946.9	17.5
50°-60°	1525.2	13.7
60°-70°	994.1	8.9
70°-80°	440.4	4.0
80°-90°	94.6	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°	3973.8	35.8
0°-40°	6107.8	55.0
0°-60°	9580.0	86.2
0°-90°	11109.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11109.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5659	5659	5659	5659	5659	
5°	5561	5554	5554	5548	5548	528
15°	5201	5201	5148	5096	5076	1462
25°	4507	4481	4409	4252	4134	2069
35°	3657	3631	3454	3192	3114	2286
45°	2806	2748	2512	2303	2211	2162
55°	1950	1891	1714	1511	1433	1749
65°	1158	1092	988	1008	837	1141
75°	464	432	406	386	425	498
85°	65	72	78	85	92	91
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5658.8	5658.8	5658.8	5658.8	5658.8
2.5°	5619.5	5619.5	5619.5	5613.0	5613.0
5°	5560.6	5554.1	5554.1	5547.6	5547.6
7.5°	5514.9	5508.3	5501.8	5495.2	5482.1
10°	5449.4	5449.4	5442.9	5410.2	5403.6
12.5°	5344.8	5338.2	5312.1	5266.3	5253.2
15°	5200.8	5200.8	5148.5	5096.2	5076.5
17.5°	5043.8	5037.3	4971.9	4919.5	4893.4
20°	4873.7	4860.7	4795.2	4710.2	4664.4
22.5°	4684.0	4684.0	4605.5	4494.3	4448.5
25°	4507.4	4481.2	4409.3	4252.3	4134.5
27.5°	4304.6	4265.3	4186.8	3964.4	3827.0
30°	4082.2	4062.5	3951.3	3663.5	3558.8
32.5°	3872.8	3840.1	3722.4	3421.4	3336.4
35°	3656.9	3630.8	3454.1	3192.5	3114.0
37.5°	3441.1	3408.3	3185.9	2976.6	2878.5
40°	3225.2	3185.9	2943.9	2754.2	2649.5
42.5°	3022.4	2970.0	2734.5	2531.7	2414.0
45°	2806.5	2747.6	2512.1	2302.8	2211.2
47.5°	2590.6	2538.3	2322.4	2106.5	2001.8
50°	2361.6	2315.8	2119.6	1903.7	1792.5
52.5°	2171.9	2100.0	1910.2	1694.4	1602.8
55°	1949.5	1890.6	1714.0	1511.2	1432.7
57.5°	1746.7	1687.8	1524.3	1334.6	1269.1
60°	1557.0	1471.9	1334.6	1171.0	1118.7
62.5°	1347.6	1282.2	1164.5	1027.1	1092.5
65°	1157.9	1092.5	987.8	1007.5	837.4
67.5°	948.6	915.9	824.3	732.7	706.5
70°	771.9	732.7	700.0	601.9	575.7
72.5°	614.9	575.7	529.9	477.6	457.9
75°	464.5	431.8	405.6	386.0	425.2
77.5°	320.6	307.5	287.8	268.2	261.7
80°	209.3	202.8	196.3	189.7	183.2
82.5°	124.3	124.3	124.3	124.3	124.3
85°	65.4	72.0	78.5	85.0	91.6
87.5°	39.3	39.3	45.8	52.3	58.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)