

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: P563821

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563821
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-LD4-4HI-50-UNV-93-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19532.0 lumens
Efficiency: N/A
Efficacy: 113.0 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

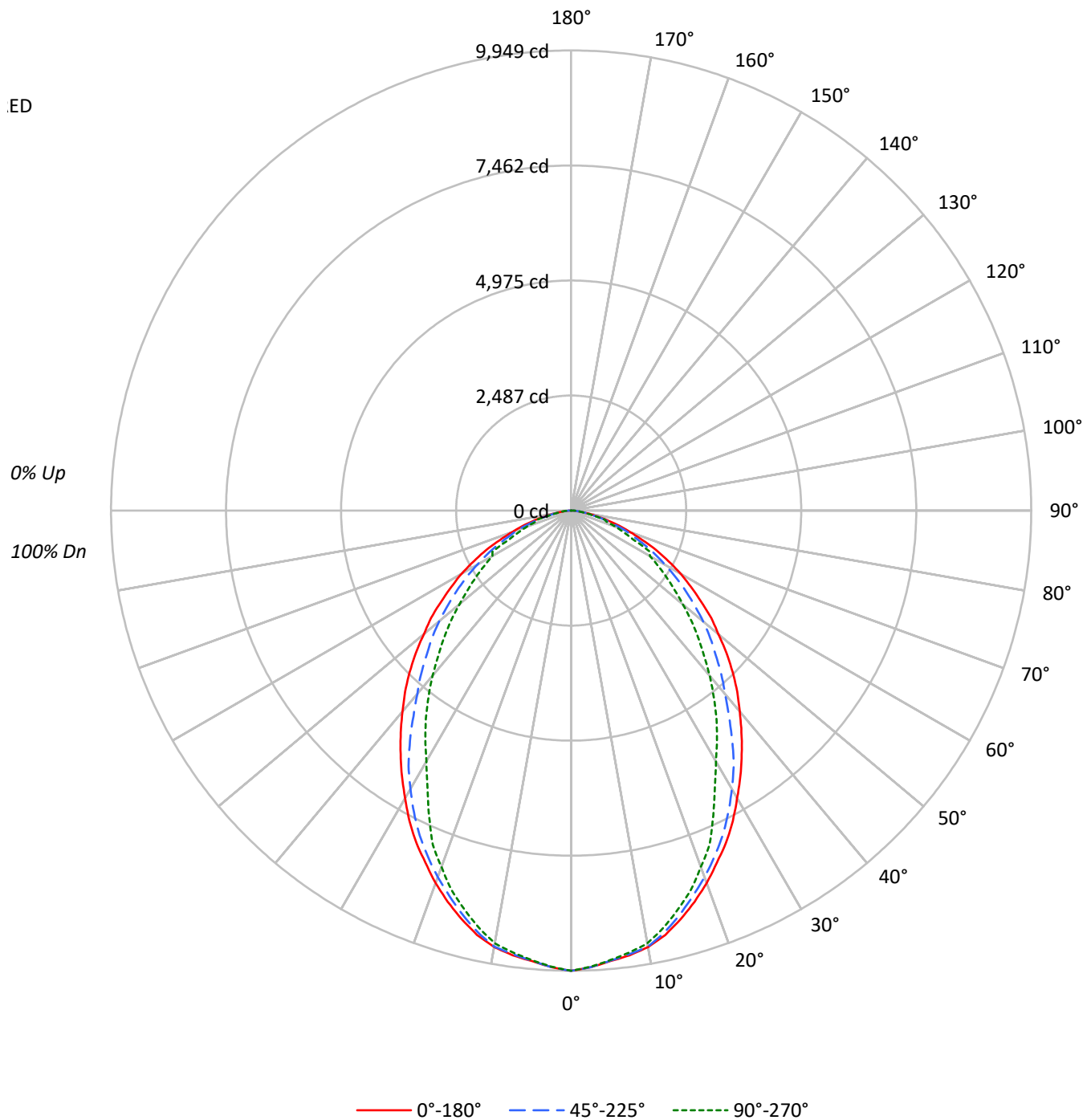
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	13387	13387	13387
5°	13205	13189	13174
10°	13090	13075	12980
15°	12737	12609	12433
20°	12270	12072	11743
25°	11765	11509	10792
30°	11151	10794	9721
35°	10561	9975	8993
40°	9960	9091	8182
45°	9389	8404	7398
50°	8692	7801	6597
55°	8040	7069	5909
60°	7367	6314	5293
65°	6482	5529	4687
70°	5340	4842	3982
75°	4246	3707	3886
80°	2852	2674	2496
85°	1775	2130	2485

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9389 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	926.1	4.7
10°-20°	2541.7	13.0
20°-30°	3518.9	18.0
30°-40°	3752.1	19.2
40°-50°	3423.0	17.5
50°-60°	2681.7	13.7
60°-70°	1747.8	8.9
70°-80°	774.3	4.0
80°-90°	166.2	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°	6986.8	35.8
0°-40°	10738.9	55.0
0°-60°	16843.6	86.2
0°-90°	19532.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19532.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9949	9949	9949	9949	9949	
5°	9777	9765	9765	9754	9754	928
15°	9144	9144	9052	8960	8926	2571
25°	7925	7879	7752	7476	7269	3638
35°	6430	6384	6073	5613	5475	4020
45°	4934	4831	4417	4049	3888	3801
55°	3428	3324	3014	2657	2519	3074
65°	2036	1921	1737	1771	1472	2006
75°	817	759	713	679	748	875
85°	115	126	138	150	161	160
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9949.3	9949.3	9949.3	9949.3	9949.3
2.5°	9880.3	9880.3	9880.3	9868.8	9868.8
5°	9776.8	9765.3	9765.3	9753.8	9753.8
7.5°	9696.3	9684.8	9673.3	9661.8	9638.8
10°	9581.3	9581.3	9569.8	9512.3	9500.8
12.5°	9397.2	9385.7	9339.7	9259.2	9236.2
15°	9144.2	9144.2	9052.2	8960.2	8925.7
17.5°	8868.1	8856.6	8741.6	8649.6	8603.6
20°	8569.1	8546.1	8431.1	8281.5	8201.0
22.5°	8235.5	8235.5	8097.5	7902.0	7821.4
25°	7925.0	7879.0	7752.4	7476.4	7269.3
27.5°	7568.4	7499.4	7361.4	6970.3	6728.7
30°	7177.3	7142.8	6947.3	6441.2	6257.2
32.5°	6809.3	6751.7	6544.7	6015.6	5866.1
35°	6429.7	6383.7	6073.1	5613.0	5475.0
37.5°	6050.1	5992.6	5601.5	5233.5	5060.9
40°	5670.5	5601.5	5176.0	4842.4	4658.4
42.5°	5314.0	5222.0	4807.9	4451.3	4244.3
45°	4934.4	4830.9	4416.8	4048.7	3887.7
47.5°	4554.8	4462.8	4083.3	3703.7	3519.7
50°	4152.3	4071.8	3726.7	3347.1	3151.6
52.5°	3818.7	3692.2	3358.6	2979.1	2818.0
55°	3427.6	3324.1	3013.6	2657.0	2519.0
57.5°	3071.1	2967.5	2680.0	2346.4	2231.4
60°	2737.5	2588.0	2346.4	2058.9	1966.9
62.5°	2369.4	2254.4	2047.4	1805.8	1920.9
65°	2035.9	1920.9	1736.8	1771.3	1472.3
67.5°	1667.8	1610.3	1449.3	1288.2	1242.2
70°	1357.3	1288.2	1230.7	1058.2	1012.2
72.5°	1081.2	1012.2	931.7	839.7	805.1
75°	816.7	759.1	713.1	678.6	747.6
77.5°	563.6	540.6	506.1	471.6	460.1
80°	368.1	356.6	345.1	333.6	322.1
82.5°	218.5	218.5	218.5	218.5	218.5
85°	115.0	126.5	138.0	149.5	161.0
87.5°	69.0	69.0	80.5	92.0	103.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)