

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: P564073

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564073
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-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13206.0 lumens
Efficiency: N/A
Efficacy: 99.1 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

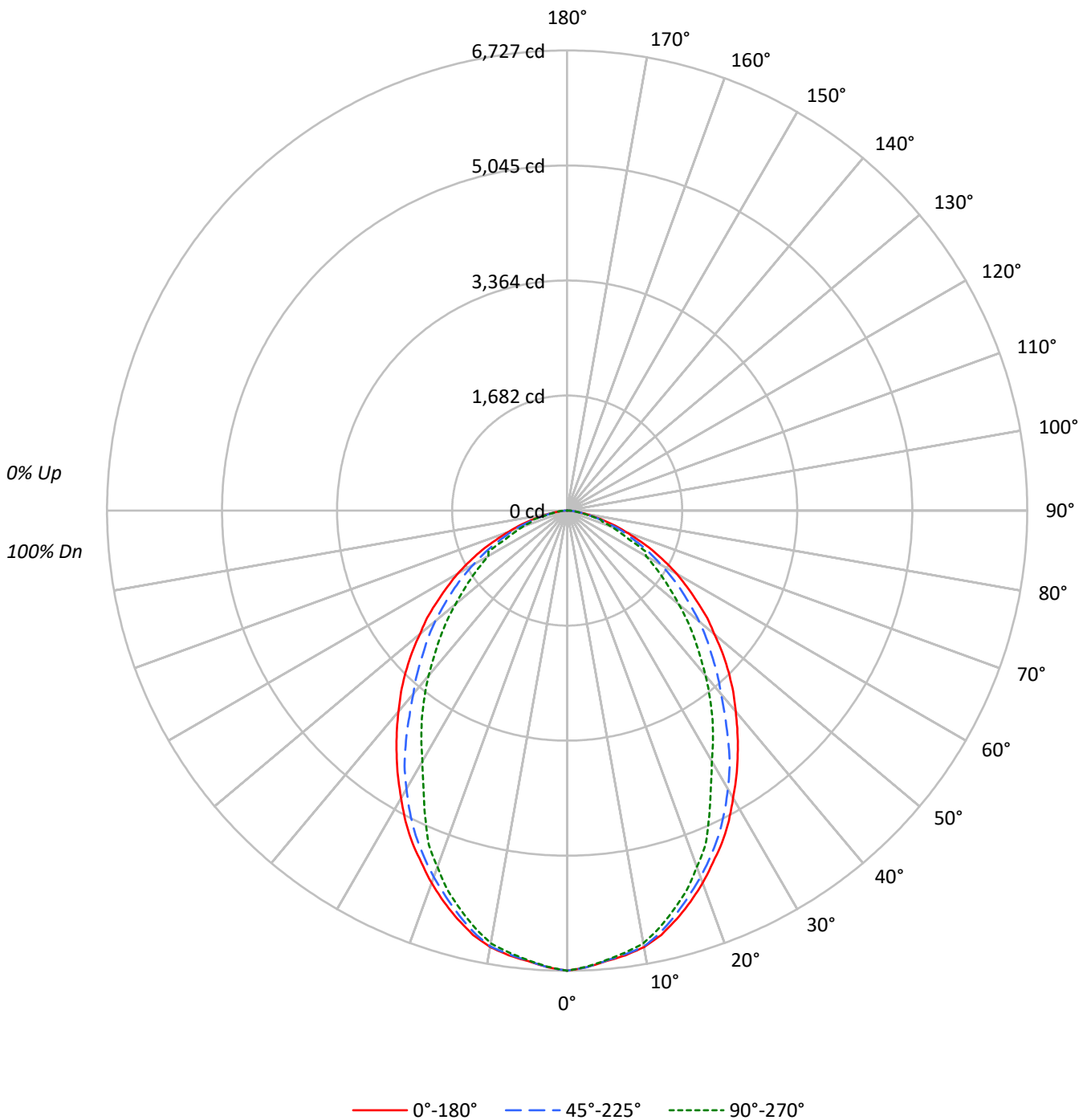
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9051	9051	9051
5°	8928	8918	8907
10°	8851	8840	8776
15°	8612	8525	8406
20°	8296	8162	7939
25°	7955	7782	7297
30°	7539	7298	6573
35°	7140	6745	6080
40°	6734	6147	5532
45°	6348	5682	5002
50°	5876	5274	4460
55°	5436	4780	3995
60°	4981	4269	3578
65°	4382	3739	3169
70°	3610	3273	2692
75°	2871	2507	2628
80°	1929	1808	1688
85°	1201	1440	1681

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6348 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	626.2	4.7
10°-20°	1718.5	13.0
20°-30°	2379.2	18.0
30°-40°	2536.9	19.2
40°-50°	2314.4	17.5
50°-60°	1813.1	13.7
60°-70°	1181.7	8.9
70°-80°	523.6	4.0
80°-90°	112.4	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°	4723.9	35.8
0°-40°	7260.8	55.0
0°-60°	11388.3	86.2
0°-90°	13206.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13206.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6727	6727	6727	6727	6727	
5°	6610	6602	6602	6595	6595	627
15°	6183	6183	6120	6058	6035	1738
25°	5358	5327	5242	5055	4915	2460
35°	4347	4316	4106	3795	3702	2718
45°	3336	3266	2986	2737	2629	2570
55°	2318	2248	2038	1796	1703	2079
65°	1376	1299	1174	1198	995	1357
75°	552	513	482	459	506	592
85°	78	86	93	101	109	108
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6727.0	6727.0	6727.0	6727.0	6727.0
2.5°	6680.3	6680.3	6680.3	6672.5	6672.5
5°	6610.3	6602.5	6602.5	6594.8	6594.8
7.5°	6555.9	6548.1	6540.3	6532.5	6517.0
10°	6478.1	6478.1	6470.3	6431.4	6423.7
12.5°	6353.7	6345.9	6314.8	6260.4	6244.8
15°	6182.6	6182.6	6120.4	6058.2	6034.8
17.5°	5995.9	5988.2	5910.4	5848.2	5817.1
20°	5793.7	5778.2	5700.4	5599.3	5544.9
22.5°	5568.2	5568.2	5474.9	5342.7	5288.2
25°	5358.2	5327.1	5241.6	5054.9	4915.0
27.5°	5117.2	5070.5	4977.2	4712.8	4549.4
30°	4852.7	4829.4	4697.2	4355.0	4230.6
32.5°	4603.9	4565.0	4425.0	4067.3	3966.2
35°	4347.2	4316.1	4106.2	3795.1	3701.8
37.5°	4090.6	4051.7	3787.3	3538.5	3421.8
40°	3834.0	3787.3	3499.6	3274.0	3149.6
42.5°	3592.9	3530.7	3250.7	3009.6	2869.7
45°	3336.3	3266.3	2986.3	2737.4	2628.6
47.5°	3079.6	3017.4	2760.8	2504.1	2379.7
50°	2807.4	2753.0	2519.7	2263.1	2130.9
52.5°	2581.9	2496.4	2270.8	2014.2	1905.3
55°	2317.5	2247.5	2037.5	1796.4	1703.1
57.5°	2076.4	2006.4	1812.0	1586.5	1508.7
60°	1850.9	1749.8	1586.5	1392.1	1329.8
62.5°	1602.0	1524.3	1384.3	1221.0	1298.7
65°	1376.5	1298.7	1174.3	1197.6	995.4
67.5°	1127.6	1088.8	979.9	871.0	839.9
70°	917.7	871.0	832.1	715.5	684.4
72.5°	731.0	684.4	629.9	567.7	544.4
75°	552.2	513.3	482.2	458.8	505.5
77.5°	381.1	365.5	342.2	318.9	311.1
80°	248.9	241.1	233.3	225.5	217.8
82.5°	147.8	147.8	147.8	147.8	147.8
85°	77.8	85.5	93.3	101.1	108.9
87.5°	46.7	46.7	54.4	62.2	70.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)