

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: P564039

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564039
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-81-87-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13904.0 lumens
Efficiency: N/A
Efficacy: 104.4 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

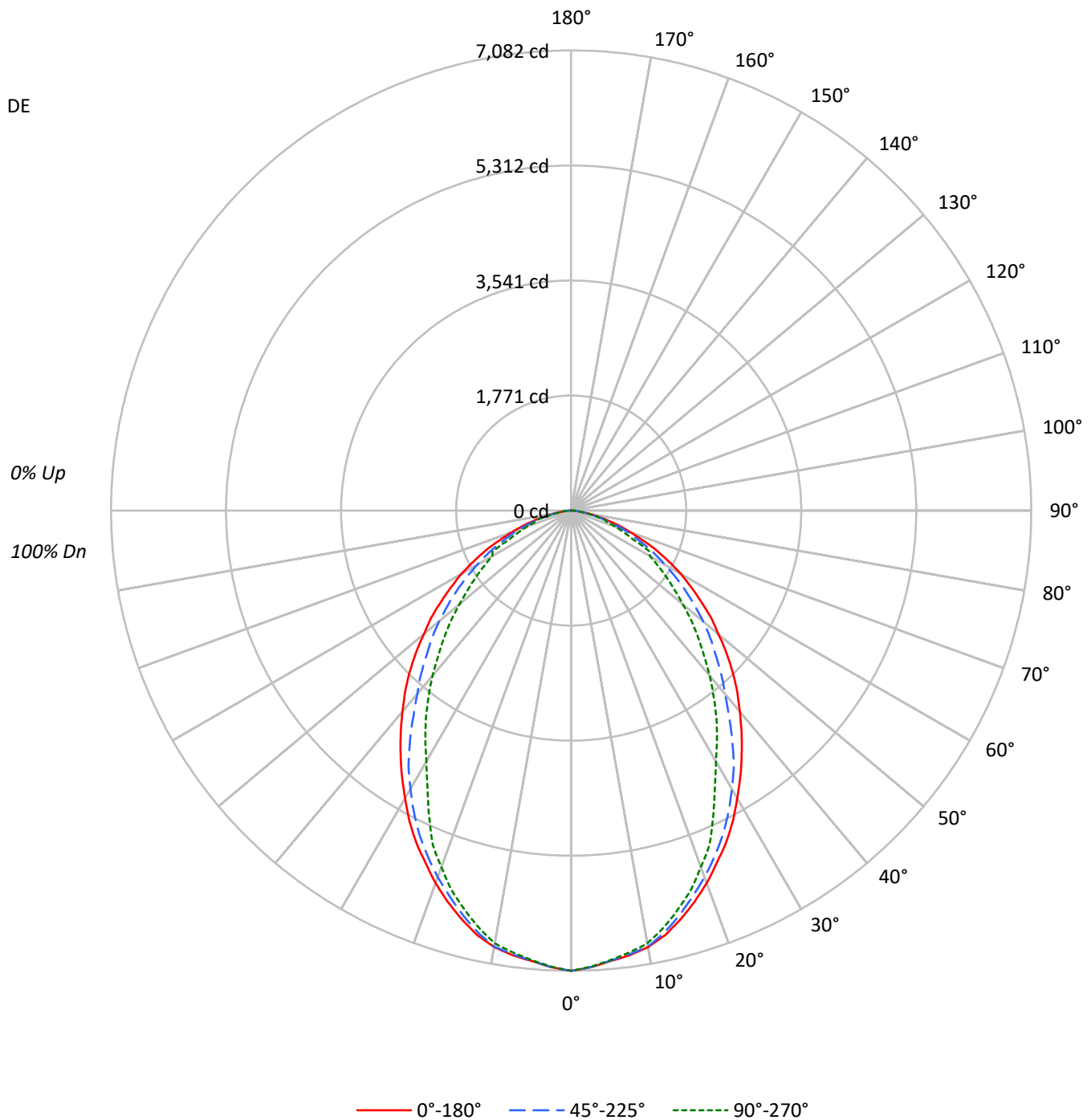
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	9529	9529	9529
5°	9400	9389	9378
10°	9318	9307	9240
15°	9067	8976	8851
20°	8734	8593	8359
25°	8375	8193	7682
30°	7938	7684	6920
35°	7518	7101	6402
40°	7090	6471	5824
45°	6684	5983	5266
50°	6187	5553	4696
55°	5724	5032	4206
60°	5244	4495	3768
65°	4614	3936	3337
70°	3801	3447	2834
75°	3022	2639	2767
80°	2030	1903	1777
85°	1264	1518	1769

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6684 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	659.3	4.7
10°-20°	1809.4	13.0
20°-30°	2504.9	18.0
30°-40°	2671.0	19.2
40°-50°	2436.7	17.5
50°-60°	1909.0	13.7
60°-70°	1244.2	8.9
70°-80°	551.2	4.0
80°-90°	118.4	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°	4973.6	35.8
0°-40°	7644.6	55.0
0°-60°	11990.3	86.2
0°-90°	13904.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13904.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7082	7082	7082	7082	7082	
5°	6960	6952	6952	6943	6943	661
15°	6509	6509	6444	6378	6354	1830
25°	5641	5609	5519	5322	5175	2590
35°	4577	4544	4323	3996	3897	2861
45°	3513	3439	3144	2882	2768	2706
55°	2440	2366	2145	1891	1793	2189
65°	1449	1367	1236	1261	1048	1428
75°	581	540	508	483	532	623
85°	82	90	98	106	115	114
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7082.5	7082.5	7082.5	7082.5	7082.5
2.5°	7033.4	7033.4	7033.4	7025.2	7025.2
5°	6959.7	6951.5	6951.5	6943.3	6943.3
7.5°	6902.4	6894.2	6886.0	6877.8	6861.4
10°	6820.5	6820.5	6812.3	6771.4	6763.2
12.5°	6689.5	6681.3	6648.6	6591.2	6574.9
15°	6509.4	6509.4	6443.9	6378.4	6353.8
17.5°	6312.9	6304.7	6222.8	6157.3	6124.5
20°	6100.0	6083.6	6001.7	5895.3	5838.0
22.5°	5862.5	5862.5	5764.3	5625.1	5567.8
25°	5641.4	5608.7	5518.6	5322.1	5174.7
27.5°	5387.6	5338.5	5240.2	4961.9	4789.9
30°	5109.2	5084.7	4945.5	4585.2	4454.2
32.5°	4847.2	4806.3	4658.9	4282.3	4175.8
35°	4577.0	4544.3	4323.2	3995.7	3897.4
37.5°	4306.8	4265.9	3987.5	3725.5	3602.7
40°	4036.6	3987.5	3684.5	3447.1	3316.1
42.5°	3782.8	3717.3	3422.5	3168.7	3021.3
45°	3512.6	3438.9	3144.1	2882.1	2767.5
47.5°	3242.4	3176.9	2906.7	2636.5	2505.5
50°	2955.8	2898.5	2652.9	2382.7	2243.5
52.5°	2718.4	2628.3	2390.9	2120.7	2006.0
55°	2440.0	2366.3	2145.2	1891.4	1793.1
57.5°	2186.2	2112.5	1907.8	1670.3	1588.4
60°	1948.7	1842.3	1670.3	1465.6	1400.1
62.5°	1686.7	1604.8	1457.4	1285.5	1367.4
65°	1449.3	1367.4	1236.4	1260.9	1048.0
67.5°	1187.2	1146.3	1031.7	917.0	884.3
70°	966.2	917.0	876.1	753.3	720.5
72.5°	769.7	720.5	663.2	597.7	573.2
75°	581.3	540.4	507.6	483.1	532.2
77.5°	401.2	384.8	360.3	335.7	327.5
80°	262.0	253.8	245.6	237.4	229.3
82.5°	155.6	155.6	155.6	155.6	155.6
85°	81.9	90.1	98.3	106.4	114.6
87.5°	49.1	49.1	57.3	65.5	73.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)