

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: P563787

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563787
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-81-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18726.0 lumens
Efficiency: N/A
Efficacy: 108.4 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

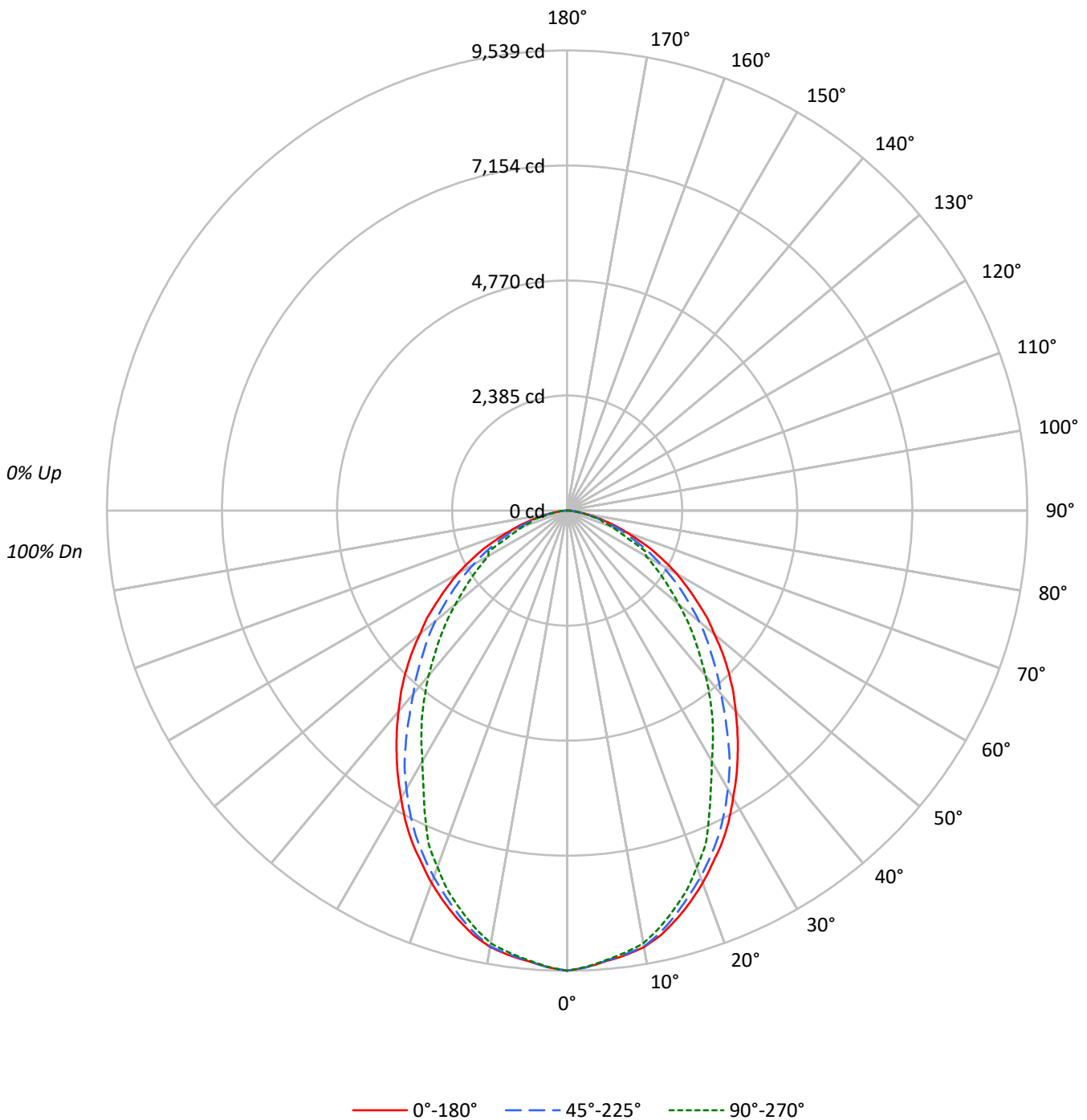
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	12834	12834	12834
5°	12660	12645	12630
10°	12550	12535	12445
15°	12212	12089	11920
20°	11763	11574	11258
25°	11280	11034	10347
30°	10691	10348	9320
35°	10125	9564	8622
40°	9549	8716	7844
45°	9002	8058	7092
50°	8333	7479	6325
55°	7709	6777	5665
60°	7062	6054	5074
65°	6214	5301	4494
70°	5119	4642	3818
75°	4070	3554	3726
80°	2734	2563	2393
85°	1703	2042	2384

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9002 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	887.9	4.7
10°-20°	2436.9	13.0
20°-30°	3373.7	18.0
30°-40°	3597.3	19.2
40°-50°	3281.8	17.5
50°-60°	2571.0	13.7
60°-70°	1675.7	8.9
70°-80°	742.4	4.0
80°-90°	159.4	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°	6698.4	35.8
0°-40°	10295.8	55.0
0°-60°	16148.6	86.2
0°-90°	18726.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	18726.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9539	9539	9539	9539	9539	
5°	9373	9362	9362	9351	9351	890
15°	8767	8767	8679	8590	8557	2465
25°	7598	7554	7432	7168	6969	3488
35°	6164	6120	5822	5381	5249	3854
45°	4731	4632	4235	3882	3727	3644
55°	3286	3187	2889	2547	2415	2947
65°	1952	1842	1665	1698	1412	1924
75°	783	728	684	651	717	839
85°	110	121	132	143	154	153
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9538.8	9538.8	9538.8	9538.8	9538.8
2.5°	9472.6	9472.6	9472.6	9461.6	9461.6
5°	9373.4	9362.3	9362.3	9351.3	9351.3
7.5°	9296.2	9285.1	9274.1	9263.1	9241.0
10°	9185.9	9185.9	9174.9	9119.7	9108.7
12.5°	9009.5	8998.4	8954.3	8877.1	8855.1
15°	8766.9	8766.9	8678.6	8590.4	8557.3
17.5°	8502.2	8491.2	8380.9	8292.7	8248.6
20°	8215.5	8193.4	8083.1	7939.8	7862.6
22.5°	7895.7	7895.7	7763.3	7575.9	7498.7
25°	7597.9	7553.8	7432.5	7167.9	6969.4
27.5°	7256.1	7189.9	7057.6	6682.7	6451.1
30°	6881.2	6848.1	6660.6	6175.4	5999.0
32.5°	6528.3	6473.1	6274.6	5767.4	5624.0
35°	6164.4	6120.3	5822.5	5381.4	5249.1
37.5°	5800.5	5745.3	5370.4	5017.5	4852.1
40°	5436.5	5370.4	4962.4	4642.6	4466.1
42.5°	5094.7	5006.5	4609.5	4267.6	4069.1
45°	4730.8	4631.5	4234.6	3881.7	3727.3
47.5°	4366.9	4278.7	3914.8	3550.9	3374.4
50°	3980.9	3903.7	3572.9	3209.0	3021.5
52.5°	3661.1	3539.8	3220.0	2856.1	2701.7
55°	3286.2	3186.9	2889.2	2547.3	2415.0
57.5°	2944.3	2845.1	2569.4	2249.6	2139.3
60°	2624.5	2481.2	2249.6	1973.9	1885.7
62.5°	2271.7	2161.4	1962.9	1731.3	1841.6
65°	1951.9	1841.6	1665.2	1698.2	1411.5
67.5°	1599.0	1543.8	1389.5	1235.1	1191.0
70°	1301.2	1235.1	1179.9	1014.5	970.4
72.5°	1036.6	970.4	893.2	805.0	771.9
75°	783.0	727.8	683.7	650.6	716.8
77.5°	540.3	518.3	485.2	452.1	441.1
80°	352.9	341.9	330.8	319.8	308.8
82.5°	209.5	209.5	209.5	209.5	209.5
85°	110.3	121.3	132.3	143.4	154.4
87.5°	66.2	66.2	77.2	88.2	99.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)