

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: P564026

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-80-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564026
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-80-94-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13091.0 lumens
Efficiency: N/A
Efficacy: 98.3 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

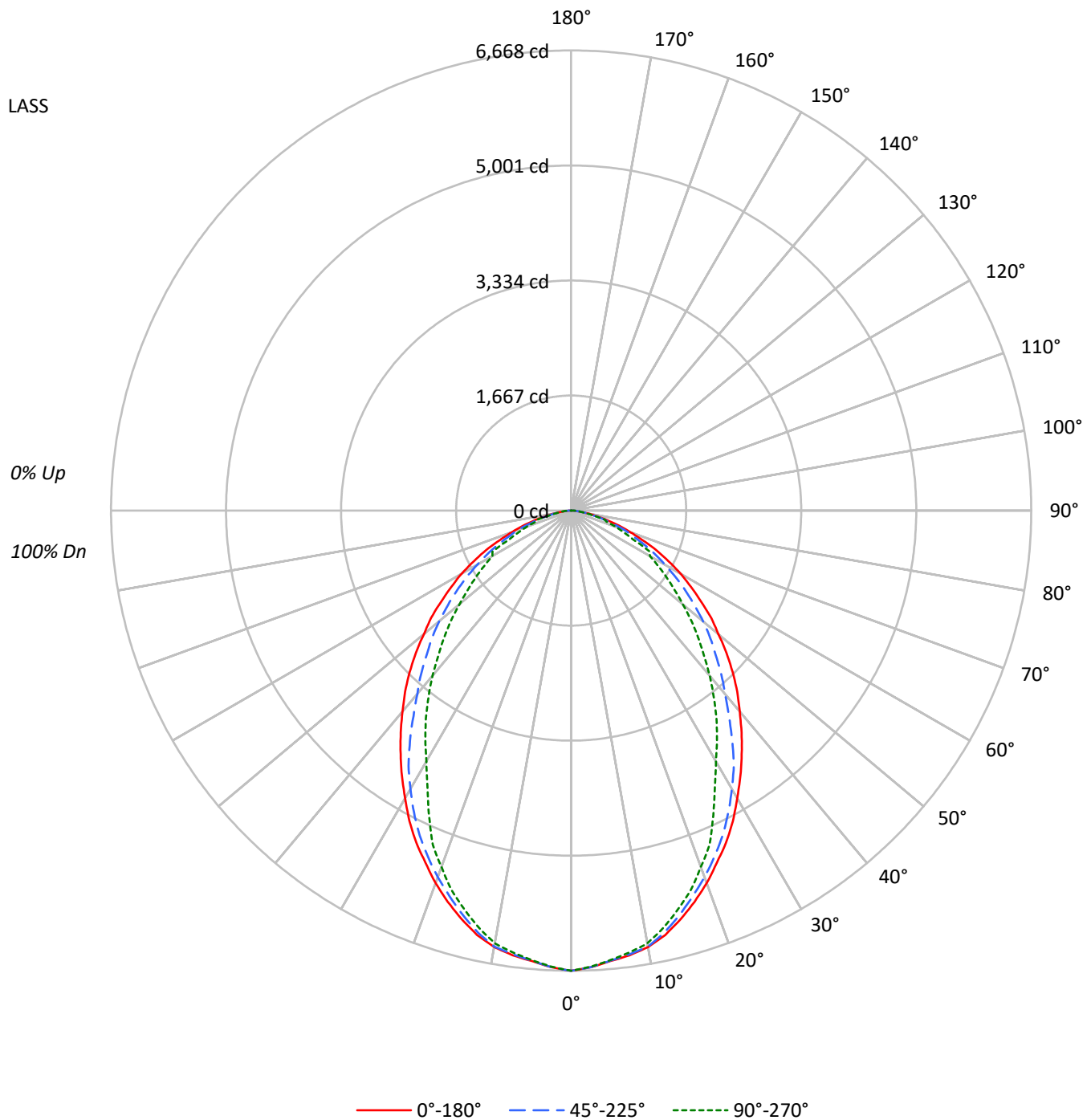
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8972	8972	8972
5°	8850	8840	8829
10°	8774	8763	8700
15°	8537	8451	8333
20°	8223	8091	7870
25°	7886	7714	7233
30°	7474	7234	6516
35°	7078	6686	6027
40°	6675	6093	5484
45°	6293	5633	4958
50°	5825	5228	4421
55°	5389	4738	3960
60°	4937	4232	3548
65°	4344	3706	3142
70°	3579	3245	2669
75°	2845	2485	2605
80°	1912	1792	1673
85°	1190	1428	1666

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6293 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	620.7	4.7
10°-20°	1703.6	13.0
20°-30°	2358.5	18.0
30°-40°	2514.8	19.2
40°-50°	2294.2	17.5
50°-60°	1797.4	13.7
60°-70°	1171.4	8.9
70°-80°	519.0	4.0
80°-90°	111.4	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°	4682.8	35.8
0°-40°	7197.6	55.0
0°-60°	11289.1	86.2
0°-90°	13091.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13091.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6668	6668	6668	6668	6668	
5°	6553	6545	6545	6537	6537	622
15°	6129	6129	6067	6005	5982	1723
25°	5312	5281	5196	5011	4872	2439
35°	4309	4279	4070	3762	3670	2694
45°	3307	3238	2960	2714	2606	2548
55°	2297	2228	2020	1781	1688	2061
65°	1364	1287	1164	1187	987	1345
75°	547	509	478	455	501	587
85°	77	85	92	100	108	107
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6668.4	6668.4	6668.4	6668.4	6668.4
2.5°	6622.1	6622.1	6622.1	6614.4	6614.4
5°	6552.7	6545.0	6545.0	6537.3	6537.3
7.5°	6498.8	6491.1	6483.4	6475.7	6460.2
10°	6421.7	6421.7	6414.0	6375.4	6367.7
12.5°	6298.3	6290.6	6259.8	6205.8	6190.4
15°	6128.7	6128.7	6067.1	6005.4	5982.3
17.5°	5943.7	5936.0	5858.9	5797.3	5766.4
20°	5743.3	5727.9	5650.8	5550.6	5496.6
22.5°	5519.7	5519.7	5427.2	5296.2	5242.2
25°	5311.6	5280.7	5195.9	5010.9	4872.2
27.5°	5072.6	5026.3	4933.8	4671.7	4509.8
30°	4810.5	4787.4	4656.3	4317.1	4193.8
32.5°	4563.8	4525.2	4386.5	4031.9	3931.6
35°	4309.4	4278.6	4070.4	3762.0	3669.5
37.5°	4055.0	4016.4	3754.3	3507.6	3392.0
40°	3800.6	3754.3	3469.1	3245.5	3122.2
42.5°	3561.6	3499.9	3222.4	2983.4	2844.7
45°	3307.2	3237.8	2960.3	2713.6	2605.7
47.5°	3052.8	2991.1	2736.7	2482.3	2359.0
50°	2783.0	2729.0	2497.8	2243.4	2112.3
52.5°	2559.4	2474.6	2251.1	1996.7	1888.7
55°	2297.3	2227.9	2019.8	1780.8	1688.3
57.5°	2058.3	1989.0	1796.2	1572.7	1495.6
60°	1834.8	1734.5	1572.7	1379.9	1318.3
62.5°	1588.1	1511.0	1372.2	1210.3	1287.4
65°	1364.5	1287.4	1164.1	1187.2	986.8
67.5°	1117.8	1079.3	971.3	863.4	832.6
70°	909.7	863.4	824.9	709.2	678.4
72.5°	724.7	678.4	624.4	562.8	539.6
75°	547.3	508.8	478.0	454.8	501.1
77.5°	377.7	362.3	339.2	316.1	308.4
80°	246.7	239.0	231.3	223.6	215.9
82.5°	146.5	146.5	146.5	146.5	146.5
85°	77.1	84.8	92.5	100.2	107.9
87.5°	46.3	46.3	54.0	61.7	69.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)