

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: P564075

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-93-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564075
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-93-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15677.0 lumens
Efficiency: N/A
Efficacy: 117.7 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

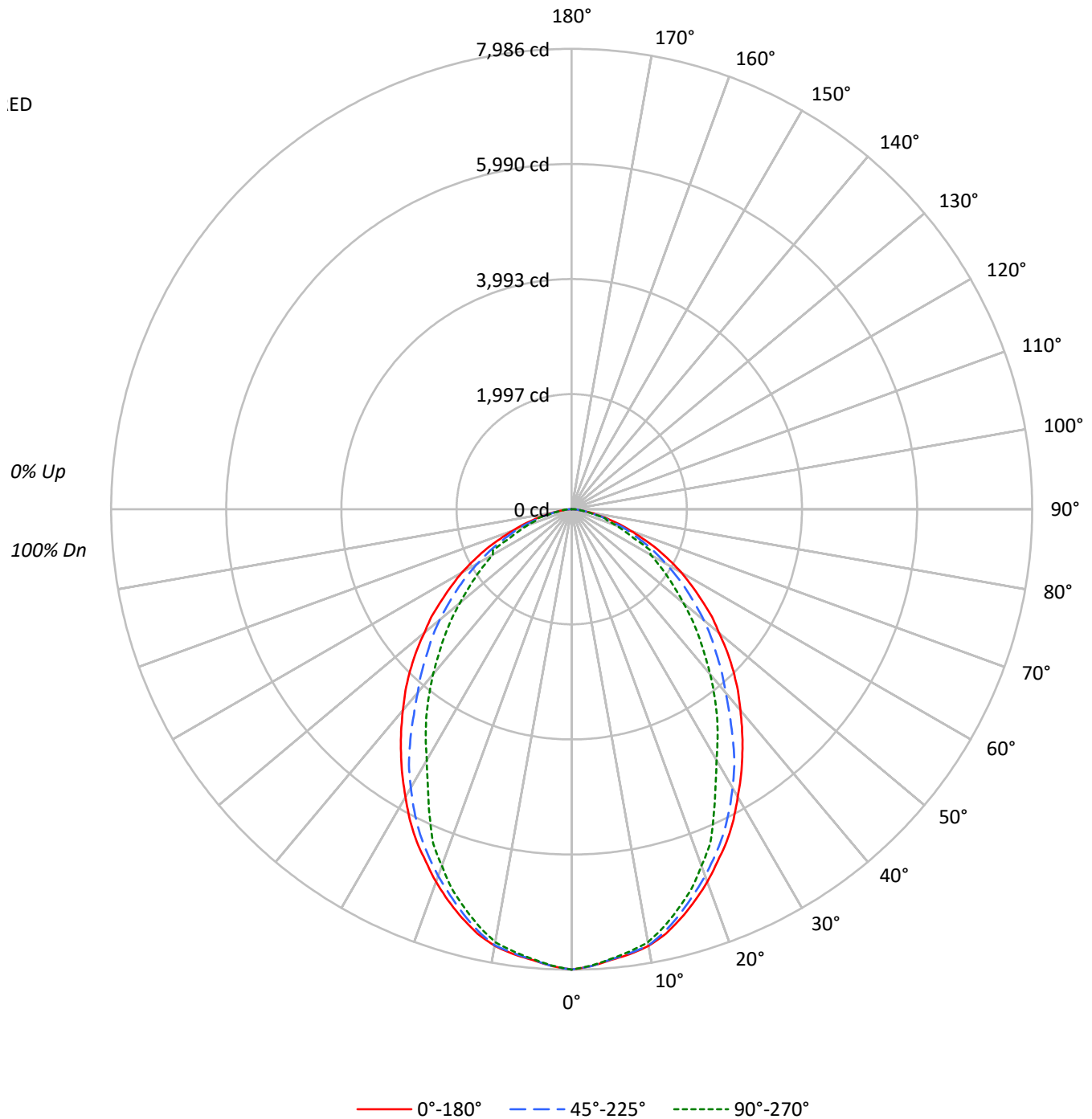
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10745	10745	10745
5°	10599	10586	10574
10°	10507	10494	10418
15°	10223	10121	9979
20°	9848	9689	9425
25°	9443	9238	8662
30°	8950	8663	7803
35°	8477	8007	7218
40°	7994	7297	6567
45°	7536	6746	5938
50°	6976	6261	5295
55°	6454	5674	4743
60°	5913	5068	4248
65°	5202	4438	3762
70°	4286	3886	3196
75°	3408	2976	3120
80°	2289	2146	2003
85°	1425	1711	1995

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7536 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	743.4	4.7
10°-20°	2040.1	13.0
20°-30°	2824.4	18.0
30°-40°	3011.6	19.2
40°-50°	2747.4	17.5
50°-60°	2152.4	13.7
60°-70°	1402.8	8.9
70°-80°	621.5	4.0
80°-90°	133.4	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°	5607.8	35.8
0°-40°	8619.4	55.0
0°-60°	13519.2	86.2
0°-90°	15677.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15677.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7986	7986	7986	7986	7986	
5°	7847	7838	7838	7829	7829	745
15°	7339	7339	7266	7192	7164	2063
25°	6361	6324	6222	6001	5835	2920
35°	5161	5124	4874	4505	4394	3226
45°	3960	3877	3545	3250	3120	3051
55°	2751	2668	2419	2133	2022	2468
65°	1634	1542	1394	1422	1182	1610
75°	656	609	572	545	600	703
85°	92	102	111	120	129	128
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7985.7	7985.7	7985.7	7985.7	7985.7
2.5°	7930.3	7930.3	7930.3	7921.0	7921.0
5°	7847.2	7837.9	7837.9	7828.7	7828.7
7.5°	7782.6	7773.3	7764.1	7754.9	7736.4
10°	7690.2	7690.2	7681.0	7634.8	7625.6
12.5°	7542.5	7533.3	7496.4	7431.7	7413.3
15°	7339.4	7339.4	7265.6	7191.7	7164.0
17.5°	7117.8	7108.6	7016.3	6942.4	6905.5
20°	6877.8	6859.4	6767.0	6647.0	6582.4
22.5°	6610.1	6610.1	6499.3	6342.4	6277.7
25°	6360.8	6323.9	6222.3	6000.8	5834.6
27.5°	6074.6	6019.2	5908.5	5594.6	5400.7
30°	5760.7	5733.1	5576.1	5169.9	5022.2
32.5°	5465.3	5419.2	5253.0	4828.3	4708.3
35°	5160.7	5123.7	4874.5	4505.2	4394.4
37.5°	4856.0	4809.9	4496.0	4200.5	4062.1
40°	4551.4	4496.0	4154.4	3886.7	3738.9
42.5°	4265.2	4191.3	3859.0	3572.8	3406.6
45°	3960.5	3877.4	3545.1	3249.7	3120.4
47.5°	3655.9	3582.0	3277.3	2972.7	2825.0
50°	3332.7	3268.1	2991.2	2686.5	2529.6
52.5°	3065.0	2963.5	2695.7	2391.1	2261.8
55°	2751.1	2668.0	2418.8	2132.6	2021.8
57.5°	2464.9	2381.8	2151.0	1883.3	1791.0
60°	2197.2	2077.2	1883.3	1652.5	1578.7
62.5°	1901.8	1809.5	1643.3	1449.4	1541.7
65°	1634.1	1541.7	1394.0	1421.7	1181.7
67.5°	1338.6	1292.5	1163.2	1034.0	997.1
70°	1089.4	1034.0	987.8	849.3	812.4
72.5°	867.8	812.4	747.8	673.9	646.2
75°	655.5	609.3	572.4	544.7	600.1
77.5°	452.4	433.9	406.2	378.5	369.3
80°	295.4	286.2	277.0	267.7	258.5
82.5°	175.4	175.4	175.4	175.4	175.4
85°	92.3	101.6	110.8	120.0	129.2
87.5°	55.4	55.4	64.6	73.9	83.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)