

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: P564192

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564192
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-50-UNV-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13977.0 lumens
Efficiency: N/A
Efficacy: 104.9 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

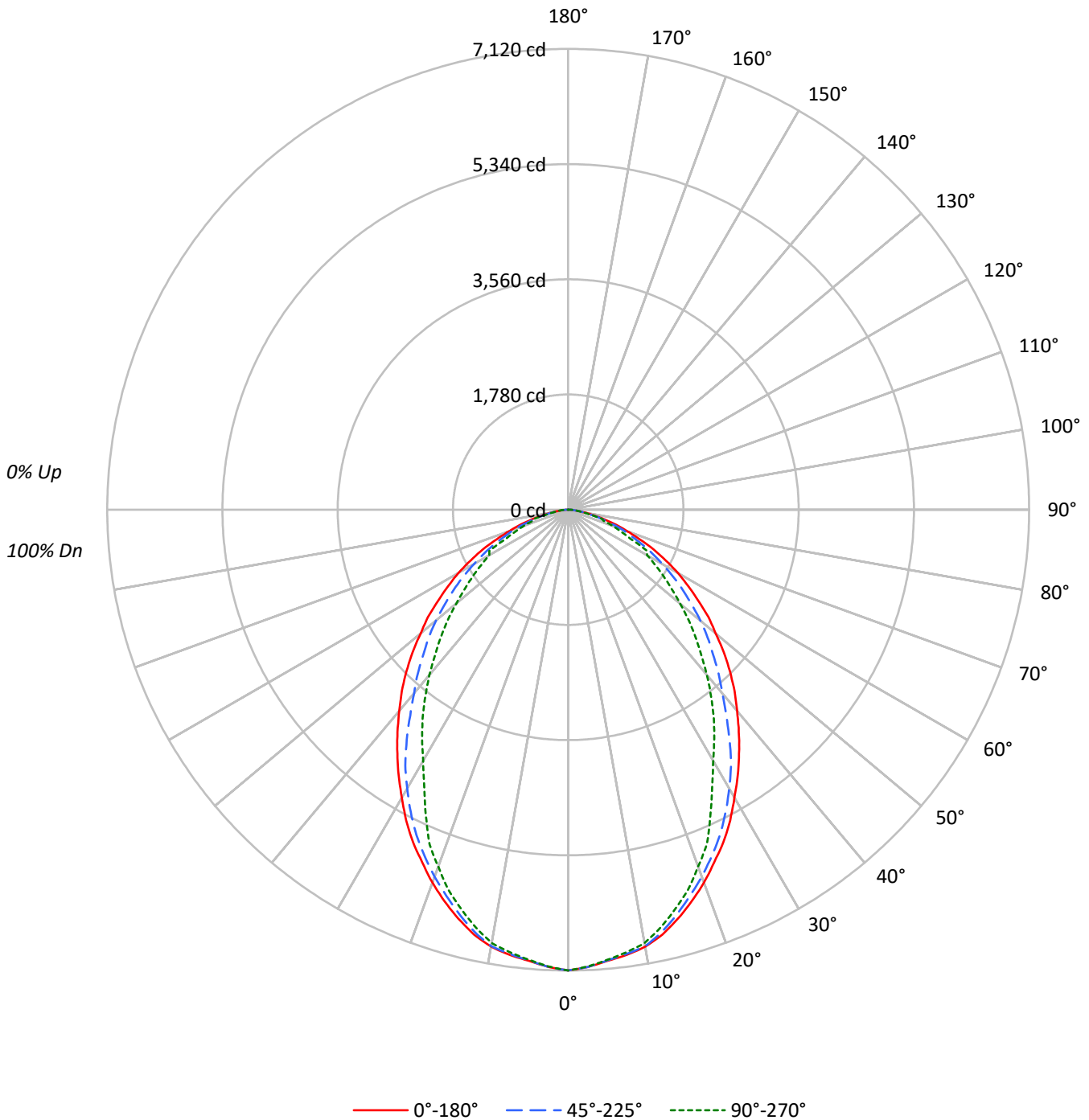
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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°	9579	9579	9579
5°	9449	9438	9427
10°	9367	9356	9289
15°	9115	9023	8897
20°	8780	8639	8403
25°	8419	8236	7723
30°	7980	7724	6957
35°	7557	7138	6435
40°	7127	6506	5855
45°	6719	6014	5294
50°	6220	5582	4721
55°	5754	5059	4229
60°	5271	4518	3788
65°	4638	3957	3354
70°	3821	3465	2849
75°	3038	2653	2781
80°	2041	1913	1786
85°	1271	1525	1778

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6719 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	662.7	4.7
10°-20°	1818.9	13.0
20°-30°	2518.1	18.0
30°-40°	2685.0	19.2
40°-50°	2449.5	17.5
50°-60°	1919.0	13.7
60°-70°	1250.7	8.9
70°-80°	554.1	4.0
80°-90°	119.0	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°	4999.7	35.8
0°-40°	7684.7	55.0
0°-60°	12053.2	86.2
0°-90°	13977.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13977.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7120	7120	7120	7120	7120	
5°	6996	6988	6988	6980	6980	664
15°	6544	6544	6478	6412	6387	1840
25°	5671	5638	5548	5350	5202	2604
35°	4601	4568	4346	4017	3918	2877
45°	3531	3457	3161	2897	2782	2720
55°	2453	2379	2156	1901	1803	2200
65°	1457	1375	1243	1268	1054	1436
75°	584	543	510	486	535	626
85°	82	90	99	107	115	114
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7119.7	7119.7	7119.7	7119.7	7119.7
2.5°	7070.3	7070.3	7070.3	7062.1	7062.1
5°	6996.2	6988.0	6988.0	6979.8	6979.8
7.5°	6938.6	6930.4	6922.2	6913.9	6897.5
10°	6856.3	6856.3	6848.1	6806.9	6798.7
12.5°	6724.6	6716.4	6683.5	6625.8	6609.4
15°	6543.5	6543.5	6477.7	6411.8	6387.2
17.5°	6346.0	6337.8	6255.5	6189.6	6156.7
20°	6132.0	6115.5	6033.2	5926.2	5868.6
22.5°	5893.3	5893.3	5794.5	5654.6	5597.0
25°	5671.1	5638.1	5547.6	5350.1	5201.9
27.5°	5415.9	5366.5	5267.8	4987.9	4815.1
30°	5136.1	5111.4	4971.4	4609.3	4477.6
32.5°	4872.7	4831.5	4683.4	4304.7	4197.7
35°	4601.1	4568.1	4345.9	4016.7	3917.9
37.5°	4329.4	4288.3	4008.4	3745.0	3621.6
40°	4057.8	4008.4	3703.9	3465.2	3333.5
42.5°	3802.7	3736.8	3440.5	3185.3	3037.2
45°	3531.0	3457.0	3160.7	2897.3	2782.0
47.5°	3259.4	3193.6	2922.0	2650.3	2518.6
50°	2971.3	2913.7	2666.8	2395.2	2255.3
52.5°	2732.6	2642.1	2403.4	2131.8	2016.6
55°	2452.8	2378.7	2156.5	1901.3	1802.6
57.5°	2197.6	2123.6	1917.8	1679.1	1596.8
60°	1958.9	1851.9	1679.1	1473.3	1407.5
62.5°	1695.6	1613.2	1465.1	1292.2	1374.6
65°	1456.9	1374.6	1242.9	1267.6	1053.6
67.5°	1193.5	1152.3	1037.1	921.9	888.9
70°	971.2	921.9	880.7	757.2	724.3
72.5°	773.7	724.3	666.7	600.9	576.2
75°	584.4	543.2	510.3	485.6	535.0
77.5°	403.3	386.9	362.2	337.5	329.2
80°	263.4	255.2	246.9	238.7	230.5
82.5°	156.4	156.4	156.4	156.4	156.4
85°	82.3	90.5	98.8	107.0	115.2
87.5°	49.4	49.4	57.6	65.8	74.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)