

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: P563813

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563813
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-93-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19096.0 lumens
Efficiency: N/A
Efficacy: 110.5 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

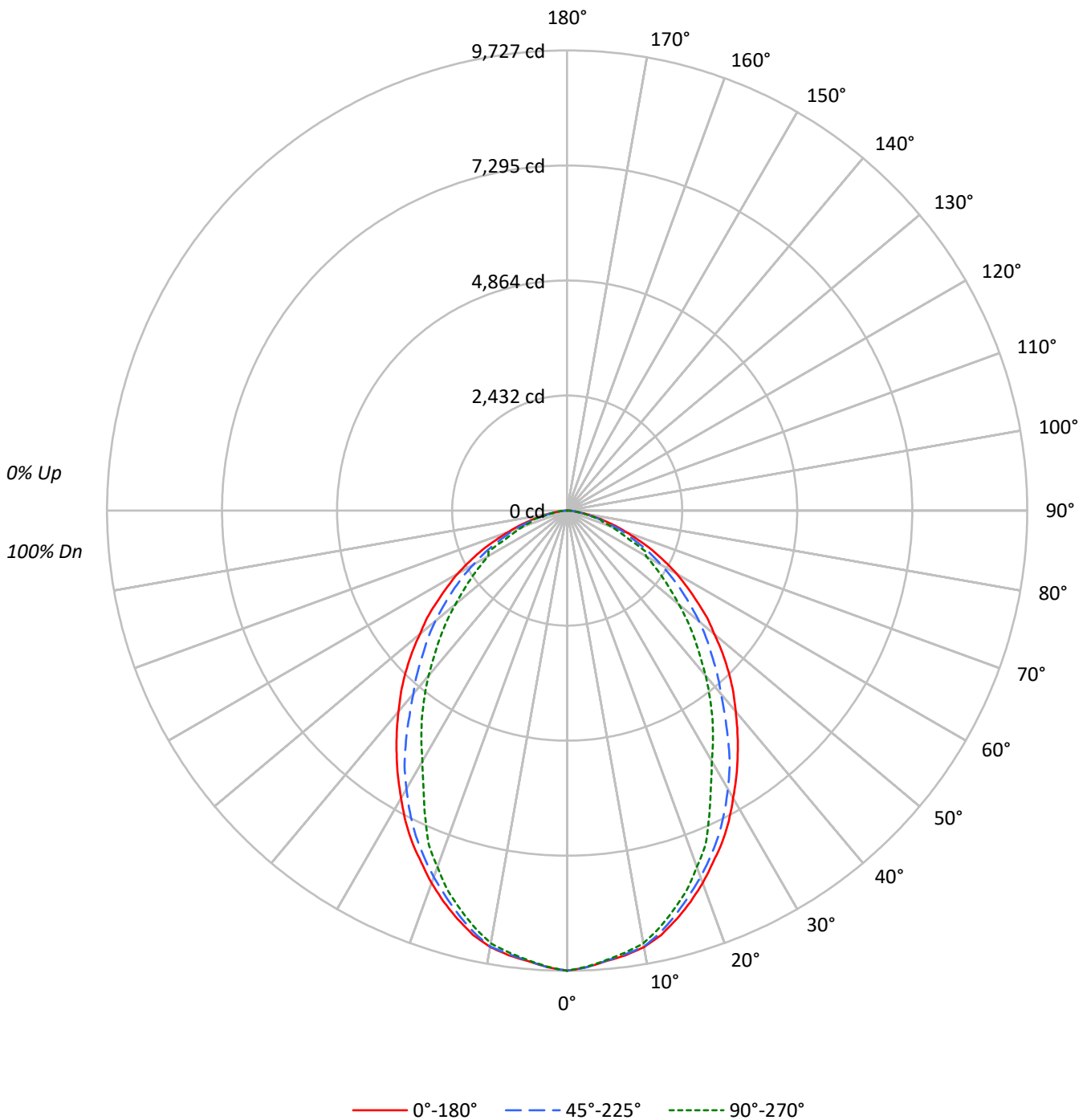
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	13088	13088	13088
5°	12910	12895	12880
10°	12798	12783	12691
15°	12453	12328	12155
20°	11996	11803	11480
25°	11503	11252	10551
30°	10902	10553	9504
35°	10325	9753	8792
40°	9738	8888	7999
45°	9180	8217	7232
50°	8498	7627	6450
55°	7861	6911	5777
60°	7202	6173	5175
65°	6337	5406	4583
70°	5220	4734	3893
75°	4151	3624	3800
80°	2789	2614	2440
85°	1737	2083	2430

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9180 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	905.5	4.7
10°-20°	2485.0	13.0
20°-30°	3440.3	18.0
30°-40°	3668.4	19.2
40°-50°	3346.6	17.5
50°-60°	2621.8	13.7
60°-70°	1708.8	8.9
70°-80°	757.1	4.0
80°-90°	162.6	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°	6830.8	35.8
0°-40°	10499.2	55.0
0°-60°	16467.6	86.2
0°-90°	19096.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	19096.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9727	9727	9727	9727	9727	
5°	9559	9547	9547	9536	9536	907
15°	8940	8940	8850	8760	8726	2513
25°	7748	7703	7579	7310	7107	3557
35°	6286	6241	5938	5488	5353	3930
45°	4824	4723	4318	3958	3801	3716
55°	3351	3250	2946	2598	2463	3006
65°	1990	1878	1698	1732	1439	1962
75°	798	742	697	664	731	856
85°	112	124	135	146	157	156
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	9727.2	9727.2	9727.2	9727.2	9727.2
2.5°	9659.8	9659.8	9659.8	9648.5	9648.5
5°	9558.6	9547.3	9547.3	9536.1	9536.1
7.5°	9479.8	9468.6	9457.4	9446.1	9423.6
10°	9367.4	9367.4	9356.1	9299.9	9288.7
12.5°	9187.5	9176.2	9131.2	9052.5	9030.0
15°	8940.1	8940.1	8850.1	8760.1	8726.4
17.5°	8670.2	8658.9	8546.5	8456.5	8411.5
20°	8377.8	8355.3	8242.9	8096.7	8018.0
22.5°	8051.7	8051.7	7916.7	7725.6	7646.9
25°	7748.1	7703.1	7579.4	7309.5	7107.1
27.5°	7399.5	7332.0	7197.0	6814.7	6578.5
30°	7017.1	6983.4	6792.2	6297.4	6117.5
32.5°	6657.3	6601.0	6398.6	5881.3	5735.1
35°	6286.2	6241.2	5937.6	5487.7	5352.8
37.5°	5915.1	5858.8	5476.5	5116.6	4948.0
40°	5544.0	5476.5	5060.4	4734.3	4554.4
42.5°	5195.4	5105.4	4700.6	4352.0	4149.5
45°	4824.3	4723.1	4318.2	3958.4	3800.9
47.5°	4453.2	4363.2	3992.1	3621.0	3441.1
50°	4059.6	3980.9	3643.5	3272.4	3081.2
52.5°	3733.5	3609.8	3283.6	2912.6	2755.1
55°	3351.1	3249.9	2946.3	2597.7	2462.7
57.5°	3002.5	2901.3	2620.2	2294.1	2181.6
60°	2676.4	2530.2	2294.1	2012.9	1923.0
62.5°	2316.5	2204.1	2001.7	1765.5	1878.0
65°	1990.4	1878.0	1698.1	1731.8	1439.4
67.5°	1630.6	1574.4	1416.9	1259.5	1214.5
70°	1327.0	1259.5	1203.3	1034.6	989.6
72.5°	1057.1	989.6	910.9	820.9	787.2
75°	798.4	742.2	697.2	663.5	730.9
77.5°	551.0	528.5	494.8	461.1	449.8
80°	359.9	348.6	337.4	326.1	314.9
82.5°	213.7	213.7	213.7	213.7	213.7
85°	112.5	123.7	134.9	146.2	157.4
87.5°	67.5	67.5	78.7	90.0	101.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)