

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: P563491

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563491
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-LD4-3STD-35-UNV-93-85-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11498.0 lumens
Efficiency: N/A
Efficacy: 115.1 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

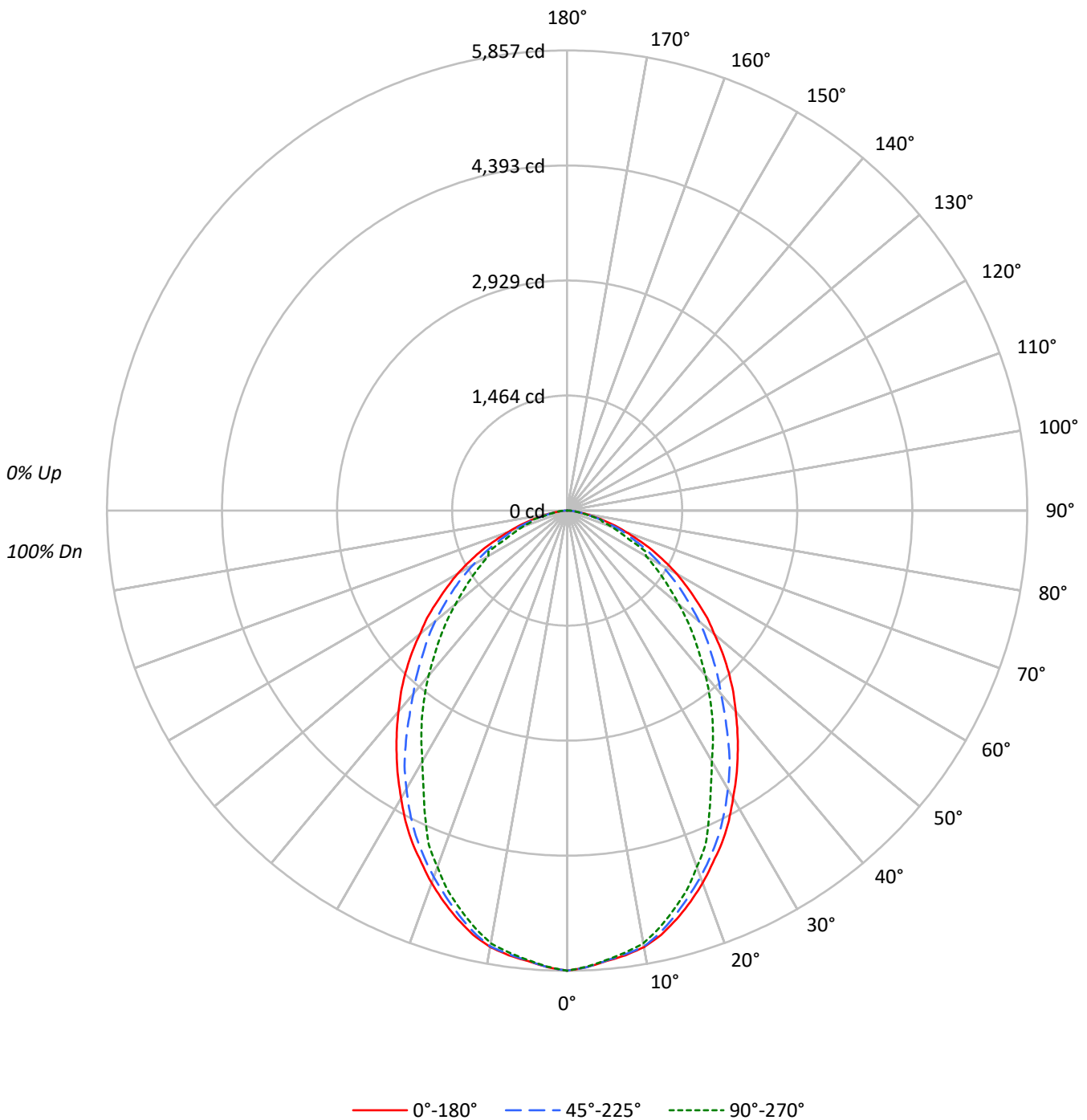
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7880	7880	7880
5°	7773	7764	7755
10°	7706	7697	7641
15°	7498	7423	7319
20°	7223	7107	6912
25°	6926	6775	6353
30°	6564	6354	5723
35°	6217	5872	5294
40°	5863	5352	4817
45°	5527	4947	4355
50°	5116	4592	3884
55°	4733	4161	3479
60°	4337	3717	3116
65°	3816	3255	2759
70°	3143	2850	2344
75°	2499	2182	2288
80°	1679	1574	1469
85°	1045	1255	1463

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5527 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	545.2	4.7
10°-20°	1496.3	13.0
20°-30°	2071.5	18.0
30°-40°	2208.8	19.2
40°-50°	2015.1	17.5
50°-60°	1578.6	13.7
60°-70°	1028.9	8.9
70°-80°	455.8	4.0
80°-90°	97.9	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°	4112.9	35.8
0°-40°	6321.7	55.0
0°-60°	9915.4	86.2
0°-90°	11498.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11498.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5857	5857	5857	5857	5857	
5°	5755	5749	5749	5742	5742	546
15°	5383	5383	5329	5275	5254	1513
25°	4665	4638	4564	4401	4279	2142
35°	3785	3758	3575	3304	3223	2366
45°	2905	2844	2600	2383	2289	2238
55°	2018	1957	1774	1564	1483	1810
65°	1198	1131	1022	1043	867	1181
75°	481	447	420	400	440	515
85°	68	74	81	88	95	94
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5856.9	5856.9	5856.9	5856.9	5856.9
2.5°	5816.3	5816.3	5816.3	5809.5	5809.5
5°	5755.4	5748.6	5748.6	5741.8	5741.8
7.5°	5708.0	5701.2	5694.4	5687.7	5674.1
10°	5640.3	5640.3	5633.5	5599.6	5592.9
12.5°	5531.9	5525.1	5498.1	5450.7	5437.1
15°	5383.0	5383.0	5328.8	5274.6	5254.3
17.5°	5220.5	5213.7	5146.0	5091.8	5064.7
20°	5044.4	5030.9	4963.2	4875.1	4827.7
22.5°	4848.0	4848.0	4766.8	4651.7	4604.3
25°	4665.2	4638.1	4563.7	4401.2	4279.3
27.5°	4455.3	4414.7	4333.4	4103.2	3961.0
30°	4225.1	4204.8	4089.7	3791.8	3683.4
32.5°	4008.4	3974.6	3852.7	3541.2	3453.2
35°	3785.0	3757.9	3575.1	3304.3	3223.0
37.5°	3561.6	3527.7	3297.5	3080.8	2979.2
40°	3338.1	3297.5	3047.0	2850.6	2742.3
42.5°	3128.2	3074.0	2830.3	2620.4	2498.5
45°	2904.8	2843.8	2600.1	2383.4	2288.6
47.5°	2681.3	2627.2	2403.7	2180.3	2071.9
50°	2444.3	2396.9	2193.8	1970.4	1855.3
52.5°	2248.0	2173.5	1977.1	1753.7	1658.9
55°	2017.8	1956.8	1774.0	1564.1	1482.9
57.5°	1807.9	1746.9	1577.6	1381.3	1313.6
60°	1611.5	1523.5	1381.3	1212.0	1157.8
62.5°	1394.8	1327.1	1205.2	1063.0	1130.8
65°	1198.5	1130.8	1022.4	1042.7	866.7
67.5°	981.8	947.9	853.1	758.4	731.3
70°	799.0	758.4	724.5	622.9	595.8
72.5°	636.5	595.8	548.5	494.3	474.0
75°	480.7	446.9	419.8	399.5	440.1
77.5°	331.8	318.2	297.9	277.6	270.8
80°	216.7	209.9	203.1	196.4	189.6
82.5°	128.6	128.6	128.6	128.6	128.6
85°	67.7	74.5	81.3	88.0	94.8
87.5°	40.6	40.6	47.4	54.2	60.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)