

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: P564004

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564004
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-LD4-4LO-50-UNV-93-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10114.0 lumens
Efficiency: N/A
Efficacy: 108.1 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

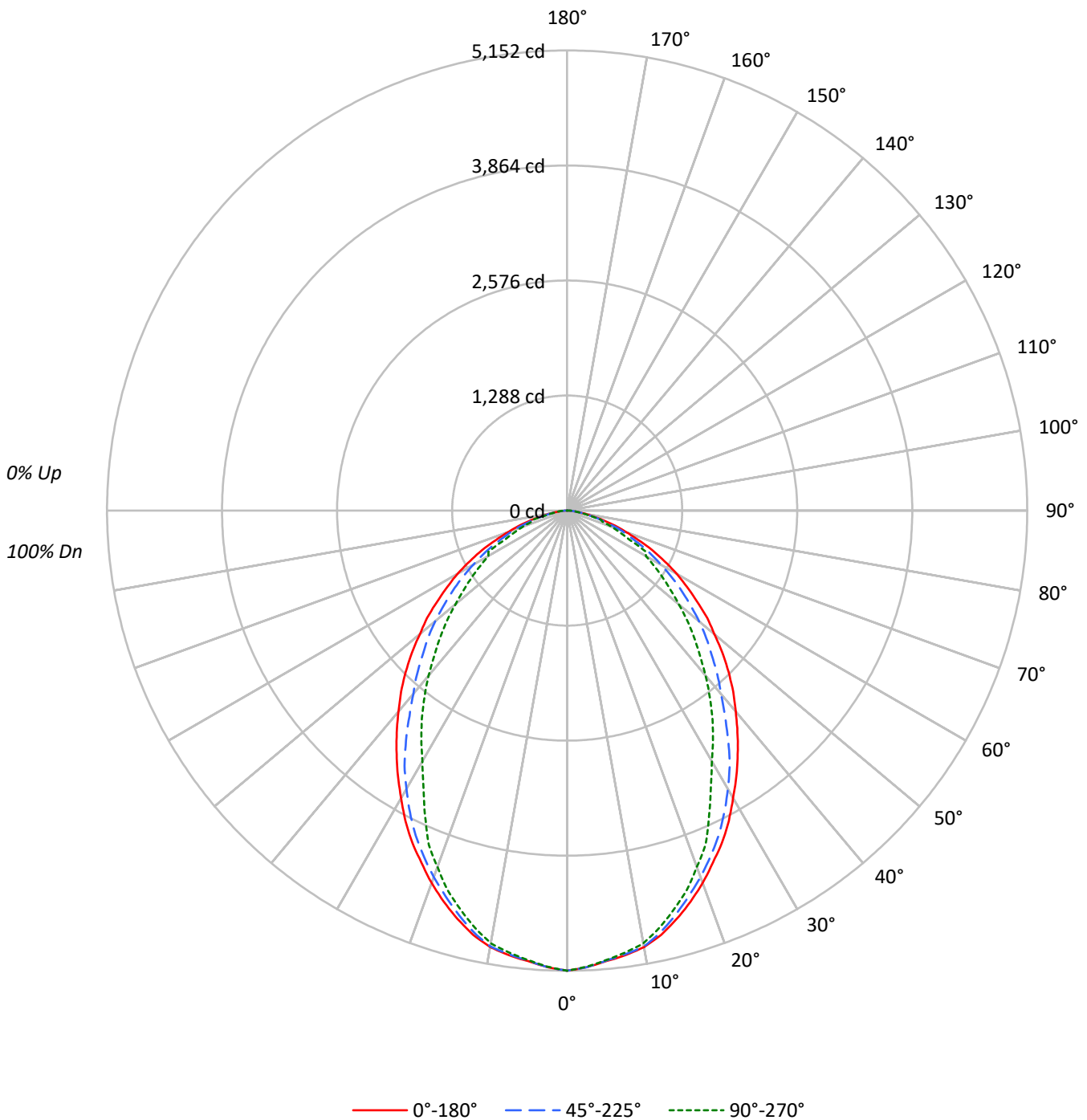
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	6932	6932	6932
5°	6838	6830	6822
10°	6778	6770	6722
15°	6596	6529	6438
20°	6353	6251	6080
25°	6092	5960	5588
30°	5774	5589	5034
35°	5469	5165	4657
40°	5157	4708	4237
45°	4862	4352	3831
50°	4501	4039	3416
55°	4164	3661	3060
60°	3814	3270	2741
65°	3356	2863	2427
70°	2765	2507	2062
75°	2198	1920	2012
80°	1477	1385	1292
85°	920	1104	1288

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4862 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	479.6	4.7
10°-20°	1316.2	13.0
20°-30°	1822.1	18.0
30°-40°	1942.9	19.2
40°-50°	1772.5	17.5
50°-60°	1388.6	13.7
60°-70°	905.0	8.9
70°-80°	401.0	4.0
80°-90°	86.1	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°	3617.9	35.8
0°-40°	5560.8	55.0
0°-60°	8721.9	86.2
0°-90°	10114.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10114.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5152	5152	5152	5152	5152	
5°	5063	5057	5057	5051	5051	481
15°	4735	4735	4687	4640	4622	1331
25°	4104	4080	4014	3871	3764	1884
35°	3329	3306	3145	2906	2835	2081
45°	2555	2502	2287	2096	2013	1968
55°	1775	1721	1560	1376	1304	1592
65°	1054	995	899	917	762	1039
75°	423	393	369	351	387	453
85°	60	66	72	77	83	83
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5151.9	5151.9	5151.9	5151.9	5151.9
2.5°	5116.2	5116.2	5116.2	5110.2	5110.2
5°	5062.6	5056.6	5056.6	5050.7	5050.7
7.5°	5020.9	5014.9	5009.0	5003.0	4991.1
10°	4961.3	4961.3	4955.4	4925.6	4919.7
12.5°	4866.0	4860.1	4836.3	4794.6	4782.7
15°	4735.0	4735.0	4687.4	4639.7	4621.9
17.5°	4592.1	4586.1	4526.6	4478.9	4455.1
20°	4437.2	4425.3	4365.7	4288.3	4246.6
22.5°	4264.5	4264.5	4193.0	4091.8	4050.1
25°	4103.7	4079.9	4014.3	3871.4	3764.2
27.5°	3919.0	3883.3	3811.8	3609.3	3484.3
30°	3716.5	3698.7	3597.4	3335.4	3240.1
32.5°	3525.9	3496.2	3389.0	3115.0	3037.6
35°	3329.4	3305.6	3144.8	2906.5	2835.1
37.5°	3132.9	3103.1	2900.6	2710.0	2620.6
40°	2936.3	2900.6	2680.2	2507.5	2412.2
42.5°	2751.7	2704.0	2489.6	2305.0	2197.8
45°	2555.1	2501.5	2287.1	2096.5	2013.1
47.5°	2358.6	2310.9	2114.4	1917.8	1822.5
50°	2150.1	2108.4	1929.7	1733.2	1631.9
52.5°	1977.4	1911.9	1739.2	1542.6	1459.2
55°	1774.9	1721.3	1560.5	1375.8	1304.4
57.5°	1590.3	1536.6	1387.7	1215.0	1155.5
60°	1417.5	1340.1	1215.0	1066.1	1018.5
62.5°	1226.9	1167.4	1060.2	935.1	994.7
65°	1054.2	994.7	899.4	917.2	762.4
67.5°	863.6	833.8	750.5	667.1	643.2
70°	702.8	667.1	637.3	548.0	524.1
72.5°	559.9	524.1	482.4	434.8	416.9
75°	422.9	393.1	369.3	351.4	387.1
77.5°	291.8	279.9	262.1	244.2	238.2
80°	190.6	184.6	178.7	172.7	166.8
82.5°	113.2	113.2	113.2	113.2	113.2
85°	59.6	65.5	71.5	77.4	83.4
87.5°	35.7	35.7	41.7	47.6	53.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)