

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: P564012

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564012
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-93-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10345.0 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

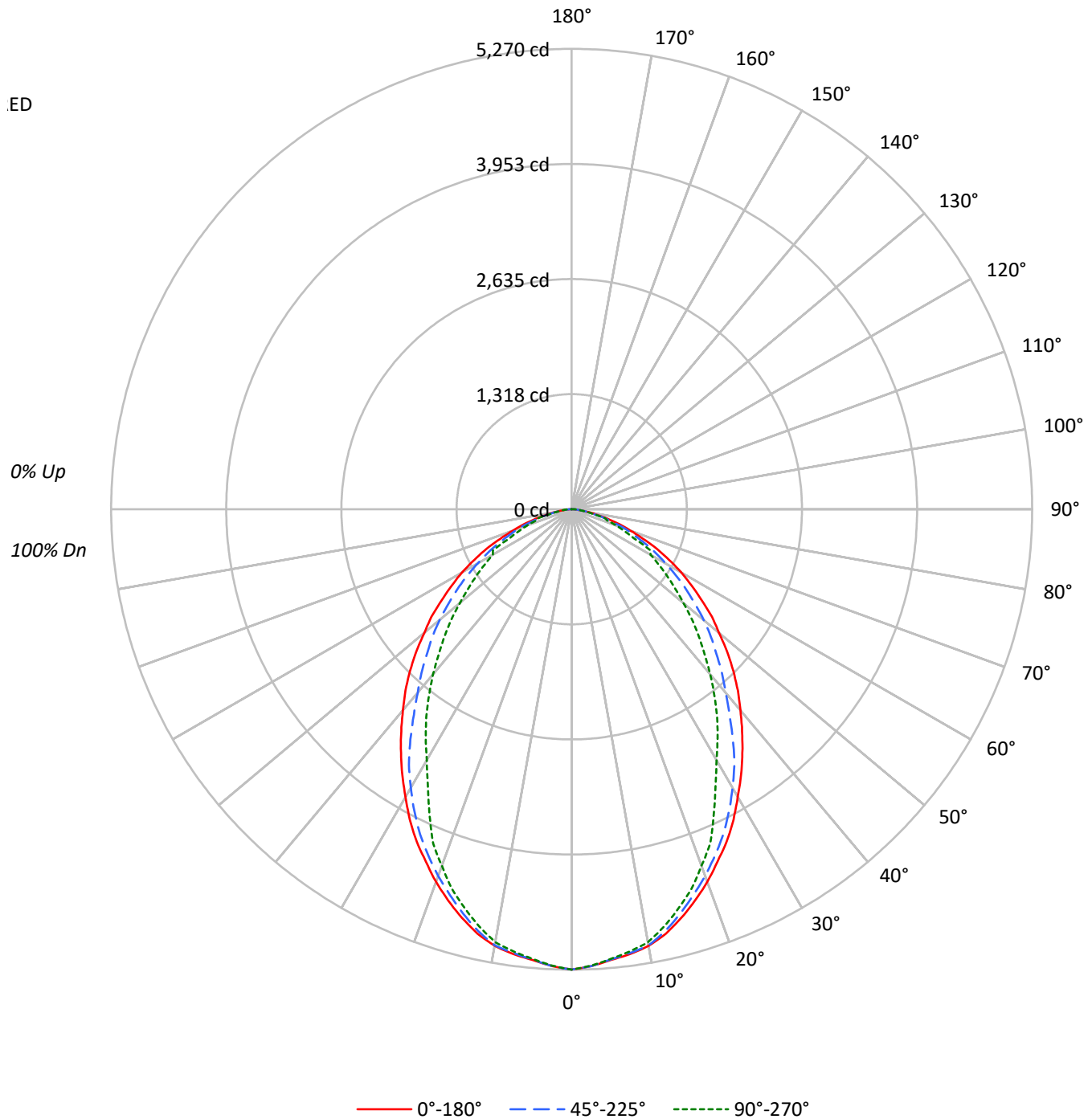
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7090	7090	7090
5°	6994	6986	6977
10°	6933	6925	6875
15°	6746	6678	6585
20°	6499	6394	6219
25°	6231	6096	5716
30°	5906	5717	5149
35°	5594	5283	4763
40°	5275	4815	4334
45°	4973	4451	3918
50°	4603	4132	3494
55°	4259	3744	3130
60°	3902	3344	2803
65°	3433	2929	2483
70°	2828	2564	2109
75°	2248	1964	2059
80°	1510	1416	1322
85°	940	1129	1317

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4973 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	490.5	4.7
10°-20°	1346.2	13.0
20°-30°	1863.7	18.0
30°-40°	1987.3	19.2
40°-50°	1813.0	17.5
50°-60°	1420.3	13.7
60°-70°	925.7	8.9
70°-80°	410.1	4.0
80°-90°	88.0	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°	3700.5	35.8
0°-40°	5687.8	55.0
0°-60°	8921.1	86.2
0°-90°	10345.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10345.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5270	5270	5270	5270	5270	
5°	5178	5172	5172	5166	5166	492
15°	4843	4843	4794	4746	4727	1362
25°	4197	4173	4106	3960	3850	1927
35°	3405	3381	3217	2973	2900	2129
45°	2614	2559	2339	2144	2059	2013
55°	1815	1761	1596	1407	1334	1628
65°	1078	1017	920	938	780	1063
75°	432	402	378	359	396	464
85°	61	67	73	79	85	84
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5269.6	5269.6	5269.6	5269.6	5269.6
2.5°	5233.1	5233.1	5233.1	5227.0	5227.0
5°	5178.2	5172.1	5172.1	5166.0	5166.0
7.5°	5135.6	5129.5	5123.4	5117.3	5105.1
10°	5074.7	5074.7	5068.6	5038.1	5032.0
12.5°	4977.2	4971.1	4946.7	4904.1	4891.9
15°	4843.2	4843.2	4794.4	4745.7	4727.4
17.5°	4697.0	4690.9	4629.9	4581.2	4556.8
20°	4538.6	4526.4	4465.5	4386.3	4343.6
22.5°	4361.9	4361.9	4288.8	4185.2	4142.6
25°	4197.4	4173.0	4106.0	3959.8	3850.2
27.5°	4008.6	3972.0	3898.9	3691.8	3563.8
30°	3801.4	3783.1	3679.6	3411.5	3314.1
32.5°	3606.5	3576.0	3466.4	3186.1	3106.9
35°	3405.4	3381.1	3216.6	2972.9	2899.8
37.5°	3204.4	3173.9	2966.8	2771.9	2680.5
40°	3003.4	2966.8	2741.4	2564.7	2467.3
42.5°	2814.5	2765.8	2546.5	2357.6	2248.0
45°	2613.5	2558.7	2339.3	2144.4	2059.1
47.5°	2412.4	2363.7	2162.7	1961.6	1864.2
50°	2199.2	2156.6	1973.8	1772.8	1669.2
52.5°	2022.6	1955.5	1778.9	1577.8	1492.5
55°	1815.4	1760.6	1596.1	1407.3	1334.2
57.5°	1626.6	1571.7	1419.4	1242.8	1181.9
60°	1449.9	1370.7	1242.8	1090.5	1041.7
62.5°	1255.0	1194.0	1084.4	956.4	1017.4
65°	1078.3	1017.4	919.9	938.2	779.8
67.5°	883.3	852.9	767.6	682.3	657.9
70°	718.9	682.3	651.8	560.5	536.1
72.5°	572.7	536.1	493.5	444.7	426.4
75°	432.5	402.1	377.7	359.4	396.0
77.5°	298.5	286.3	268.0	249.8	243.7
80°	194.9	188.9	182.8	176.7	170.6
82.5°	115.7	115.7	115.7	115.7	115.7
85°	60.9	67.0	73.1	79.2	85.3
87.5°	36.6	36.6	42.6	48.7	54.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)