

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: P563618

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563618
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-50-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10274.0 lumens
Efficiency: N/A
Efficacy: 102.8 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

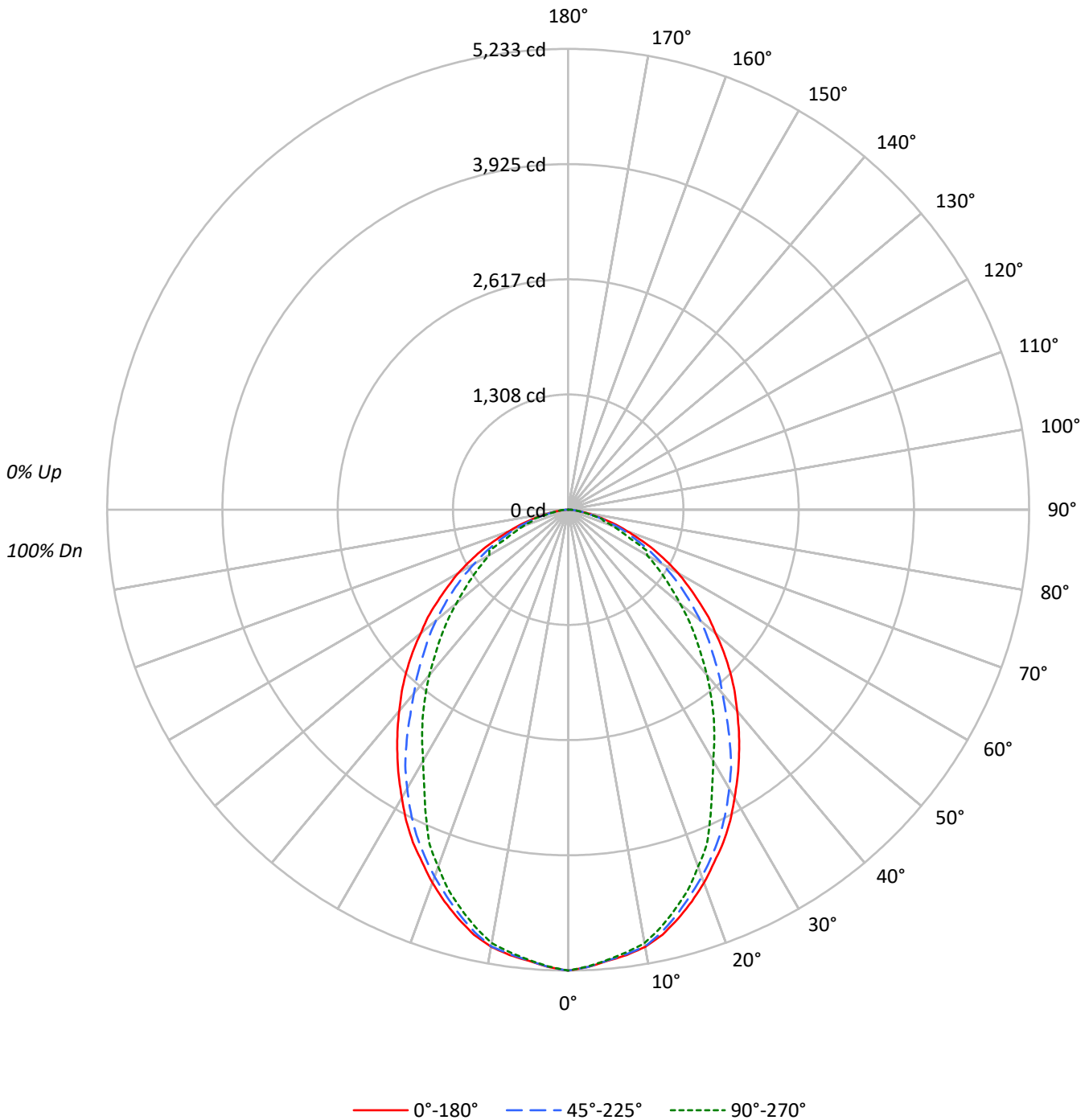
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7041	7041	7041
5°	6946	6938	6930
10°	6886	6877	6828
15°	6700	6633	6540
20°	6454	6350	6177
25°	6189	6054	5677
30°	5865	5677	5113
35°	5555	5247	4730
40°	5239	4782	4304
45°	4939	4421	3891
50°	4572	4103	3470
55°	4229	3719	3108
60°	3875	3321	2784
65°	3409	2909	2465
70°	2808	2547	2094
75°	2233	1950	2045
80°	1500	1406	1313
85°	934	1121	1308

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4939 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	487.2	4.7
10°-20°	1337.0	13.0
20°-30°	1850.9	18.0
30°-40°	1973.7	19.2
40°-50°	1800.6	17.5
50°-60°	1410.6	13.7
60°-70°	919.3	8.9
70°-80°	407.3	4.0
80°-90°	87.5	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°	3675.1	35.8
0°-40°	5648.7	55.0
0°-60°	8859.9	86.2
0°-90°	10274.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10274.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5233	5233	5233	5233	5233	
5°	5143	5137	5137	5131	5131	488
15°	4810	4810	4762	4713	4695	1352
25°	4169	4144	4078	3933	3824	1914
35°	3382	3358	3194	2952	2880	2114
45°	2596	2541	2323	2130	2045	1999
55°	1803	1748	1585	1398	1325	1617
65°	1071	1010	914	932	774	1055
75°	430	399	375	357	393	460
85°	60	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°	5233.4	5233.4	5233.4	5233.4	5233.4
2.5°	5197.1	5197.1	5197.1	5191.1	5191.1
5°	5142.7	5136.6	5136.6	5130.6	5130.6
7.5°	5100.3	5094.3	5088.2	5082.2	5070.1
10°	5039.8	5039.8	5033.8	5003.5	4997.5
12.5°	4943.0	4937.0	4912.8	4870.4	4858.3
15°	4809.9	4809.9	4761.5	4713.1	4695.0
17.5°	4664.7	4658.7	4598.2	4549.8	4525.6
20°	4507.4	4495.3	4434.8	4356.2	4313.8
22.5°	4332.0	4332.0	4259.4	4156.5	4114.1
25°	4168.6	4144.4	4077.8	3932.6	3823.7
27.5°	3981.0	3944.7	3872.1	3666.4	3539.4
30°	3775.3	3757.2	3654.3	3388.1	3291.3
32.5°	3581.7	3551.5	3442.6	3164.3	3085.6
35°	3382.1	3357.9	3194.5	2952.5	2879.9
37.5°	3182.4	3152.2	2946.5	2752.8	2662.1
40°	2982.8	2946.5	2722.6	2547.1	2450.3
42.5°	2795.2	2746.8	2529.0	2341.4	2232.5
45°	2595.5	2541.1	2323.3	2129.7	2045.0
47.5°	2395.9	2347.5	2147.8	1948.2	1851.4
50°	2184.1	2141.8	1960.3	1760.6	1657.8
52.5°	2008.7	1942.1	1766.7	1567.0	1482.3
55°	1803.0	1748.5	1585.2	1397.6	1325.0
57.5°	1615.4	1561.0	1409.7	1234.2	1173.7
60°	1440.0	1361.3	1234.2	1083.0	1034.6
62.5°	1246.3	1185.8	1076.9	949.9	1010.4
65°	1070.9	1010.4	913.6	931.7	774.4
67.5°	877.3	847.0	762.3	677.6	653.4
70°	713.9	677.6	647.4	556.6	532.4
72.5°	568.7	532.4	490.1	441.7	423.5
75°	429.6	399.3	375.1	357.0	393.3
77.5°	296.5	284.4	266.2	248.1	242.0
80°	193.6	187.6	181.5	175.5	169.4
82.5°	115.0	115.0	115.0	115.0	115.0
85°	60.5	66.6	72.6	78.7	84.7
87.5°	36.3	36.3	42.4	48.4	54.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)