

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: P563620

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-93-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563620
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-93-86-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: 10158.0 lumens
Efficiency: N/A
Efficacy: 101.7 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

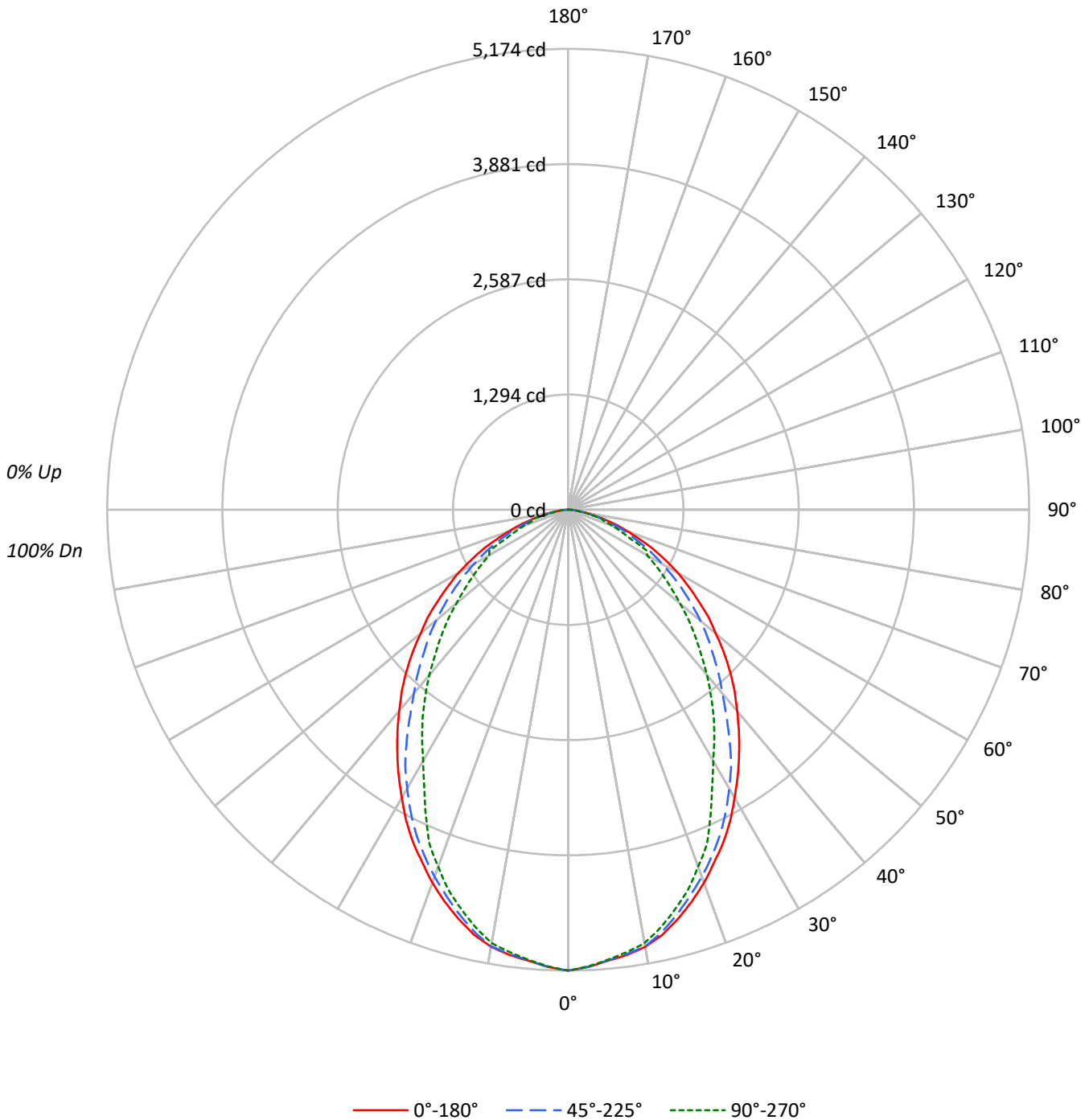
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	6962	6962	6962
5°	6867	6859	6851
10°	6808	6800	6751
15°	6624	6558	6466
20°	6381	6278	6107
25°	6119	5986	5613
30°	5799	5613	5056
35°	5492	5188	4677
40°	5180	4728	4255
45°	4883	4371	3847
50°	4520	4057	3431
55°	4182	3677	3073
60°	3831	3284	2753
65°	3371	2876	2438
70°	2777	2518	2071
75°	2208	1928	2021
80°	1483	1391	1298
85°	923	1108	1292

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4883 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	481.7	4.7
10°-20°	1321.9	13.0
20°-30°	1830.1	18.0
30°-40°	1951.4	19.2
40°-50°	1780.2	17.5
50°-60°	1394.7	13.7
60°-70°	909.0	8.9
70°-80°	402.7	4.0
80°-90°	86.5	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°	3633.6	35.8
0°-40°	5585.0	55.0
0°-60°	8759.9	86.2
0°-90°	10158.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10158.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5174	5174	5174	5174	5174	
5°	5085	5079	5079	5073	5073	483
15°	4756	4756	4708	4660	4642	1337
25°	4122	4098	4032	3888	3781	1892
35°	3344	3320	3158	2919	2847	2091
45°	2566	2512	2297	2106	2022	1977
55°	1783	1729	1567	1382	1310	1599
65°	1059	999	903	921	766	1043
75°	425	395	371	353	389	455
85°	60	66	72	78	84	83
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5174.3	5174.3	5174.3	5174.3	5174.3
2.5°	5138.5	5138.5	5138.5	5132.5	5132.5
5°	5084.6	5078.6	5078.6	5072.7	5072.7
7.5°	5042.7	5036.8	5030.8	5024.8	5012.8
10°	4982.9	4982.9	4976.9	4947.0	4941.1
12.5°	4887.2	4881.2	4857.3	4815.4	4803.5
15°	4755.6	4755.6	4707.8	4659.9	4642.0
17.5°	4612.1	4606.1	4546.2	4498.4	4474.5
20°	4456.5	4444.6	4384.7	4307.0	4265.1
22.5°	4283.0	4283.0	4211.3	4109.6	4067.7
25°	4121.5	4097.6	4031.8	3888.2	3780.6
27.5°	3936.1	3900.2	3828.4	3625.0	3499.4
30°	3732.7	3714.8	3613.1	3349.9	3254.2
32.5°	3541.3	3511.4	3403.7	3128.5	3050.8
35°	3343.9	3320.0	3158.4	2919.2	2847.4
37.5°	3146.5	3116.6	2913.2	2721.8	2632.0
40°	2949.1	2913.2	2691.9	2518.4	2422.7
42.5°	2763.6	2715.8	2500.4	2315.0	2207.3
45°	2566.2	2512.4	2297.1	2105.6	2021.9
47.5°	2368.8	2321.0	2123.6	1926.2	1830.5
50°	2159.5	2117.6	1938.1	1740.7	1639.0
52.5°	1986.0	1920.2	1746.7	1549.3	1465.6
55°	1782.6	1728.8	1567.3	1381.8	1310.0
57.5°	1597.2	1543.3	1393.8	1220.3	1160.5
60°	1423.7	1345.9	1220.3	1070.8	1022.9
62.5°	1232.3	1172.5	1064.8	939.2	999.0
65°	1058.8	999.0	903.3	921.2	765.7
67.5°	867.4	837.5	753.7	670.0	646.0
70°	705.9	670.0	640.1	550.3	526.4
72.5°	562.3	526.4	484.5	436.7	418.7
75°	424.7	394.8	370.9	352.9	388.8
77.5°	293.1	281.1	263.2	245.3	239.3
80°	191.4	185.4	179.5	173.5	167.5
82.5°	113.7	113.7	113.7	113.7	113.7
85°	59.8	65.8	71.8	77.8	83.7
87.5°	35.9	35.9	41.9	47.9	53.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)