

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: P561511

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561511
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-12-4-LD4-2HI-50-UNV-93-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7863.0 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

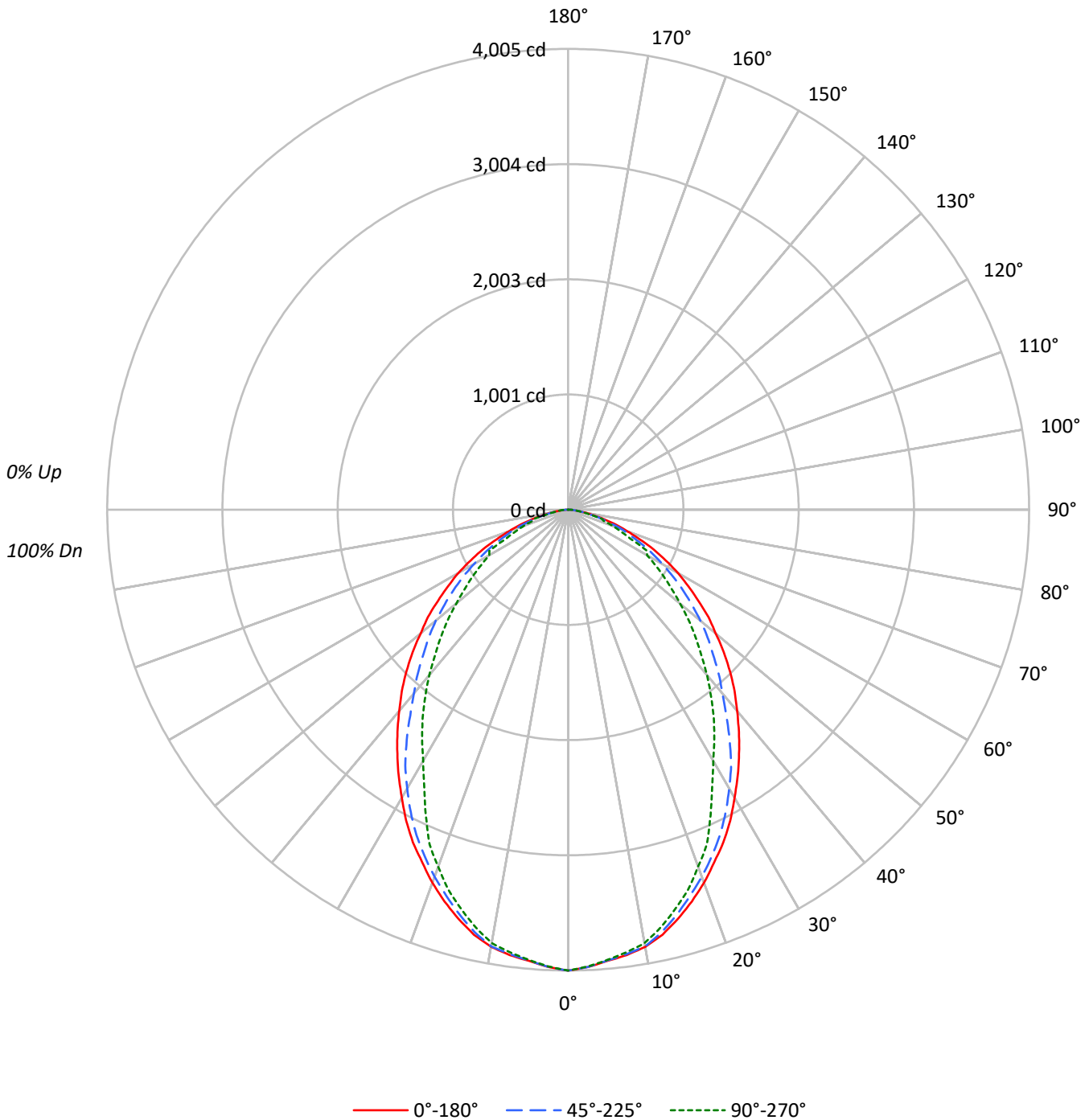
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10778	10778	10778
5°	10632	10619	10607
10°	10539	10527	10451
15°	10255	10152	10010
20°	9879	9720	9454
25°	9473	9266	8689
30°	8978	8690	7827
35°	8503	8032	7241
40°	8019	7320	6588
45°	7559	6767	5956
50°	6998	6281	5311
55°	6474	5692	4758
60°	5931	5084	4261
65°	5219	4452	3774
70°	4299	3899	3206
75°	3419	2985	3130
80°	2297	2152	2010
85°	1430	1717	2001

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7559 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	372.8	4.7
10°-20°	1023.2	13.0
20°-30°	1416.6	18.0
30°-40°	1510.5	19.2
40°-50°	1378.0	17.5
50°-60°	1079.6	13.7
60°-70°	703.6	8.9
70°-80°	311.7	4.0
80°-90°	66.9	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°	2812.7	35.8
0°-40°	4323.2	55.0
0°-60°	6780.7	86.2
0°-90°	7863.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7863.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4005	4005	4005	4005	4005	
5°	3936	3931	3931	3927	3927	374
15°	3681	3681	3644	3607	3593	1035
25°	3190	3172	3121	3010	2926	1465
35°	2588	2570	2445	2260	2204	1618
45°	1986	1945	1778	1630	1565	1530
55°	1380	1338	1213	1070	1014	1238
65°	820	773	699	713	593	808
75°	329	306	287	273	301	352
85°	46	51	56	60	65	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4005.3	4005.3	4005.3	4005.3	4005.3
2.5°	3977.5	3977.5	3977.5	3972.9	3972.9
5°	3935.9	3931.2	3931.2	3926.6	3926.6
7.5°	3903.4	3898.8	3894.2	3889.5	3880.3
10°	3857.1	3857.1	3852.5	3829.4	3824.7
12.5°	3783.0	3778.4	3759.9	3727.5	3718.2
15°	3681.2	3681.2	3644.1	3607.1	3593.2
17.5°	3570.0	3565.4	3519.1	3482.1	3463.5
20°	3449.7	3440.4	3394.1	3333.9	3301.5
22.5°	3315.4	3315.4	3259.8	3181.1	3148.7
25°	3190.4	3171.8	3120.9	3009.8	2926.4
27.5°	3046.8	3019.0	2963.5	2806.0	2708.8
30°	2889.4	2875.5	2796.8	2593.0	2518.9
32.5°	2741.2	2718.1	2634.7	2421.7	2361.5
35°	2588.4	2569.9	2444.9	2259.6	2204.1
37.5°	2435.6	2412.4	2255.0	2106.8	2037.4
40°	2282.8	2255.0	2083.7	1949.4	1875.3
42.5°	2139.3	2102.2	1935.5	1792.0	1708.6
45°	1986.4	1944.8	1778.1	1629.9	1565.1
47.5°	1833.6	1796.6	1643.8	1491.0	1416.9
50°	1671.6	1639.2	1500.3	1347.5	1268.7
52.5°	1537.3	1486.4	1352.1	1199.3	1134.5
55°	1379.9	1338.2	1213.2	1069.6	1014.1
57.5°	1236.3	1194.6	1078.9	944.6	898.3
60°	1102.0	1041.8	944.6	828.8	791.8
62.5°	953.9	907.6	824.2	727.0	773.3
65°	819.6	773.3	699.2	713.1	592.7
67.5°	671.4	648.3	583.4	518.6	500.1
70°	546.4	518.6	495.5	426.0	407.5
72.5°	435.3	407.5	375.1	338.0	324.1
75°	328.8	305.6	287.1	273.2	301.0
77.5°	226.9	217.6	203.7	189.8	185.2
80°	148.2	143.5	138.9	134.3	129.7
82.5°	88.0	88.0	88.0	88.0	88.0
85°	46.3	50.9	55.6	60.2	64.8
87.5°	27.8	27.8	32.4	37.0	41.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)