

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: P561503

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-82-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561503
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-82-97-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7598.0 lumens
Efficiency: N/A
Efficacy: 87.9 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

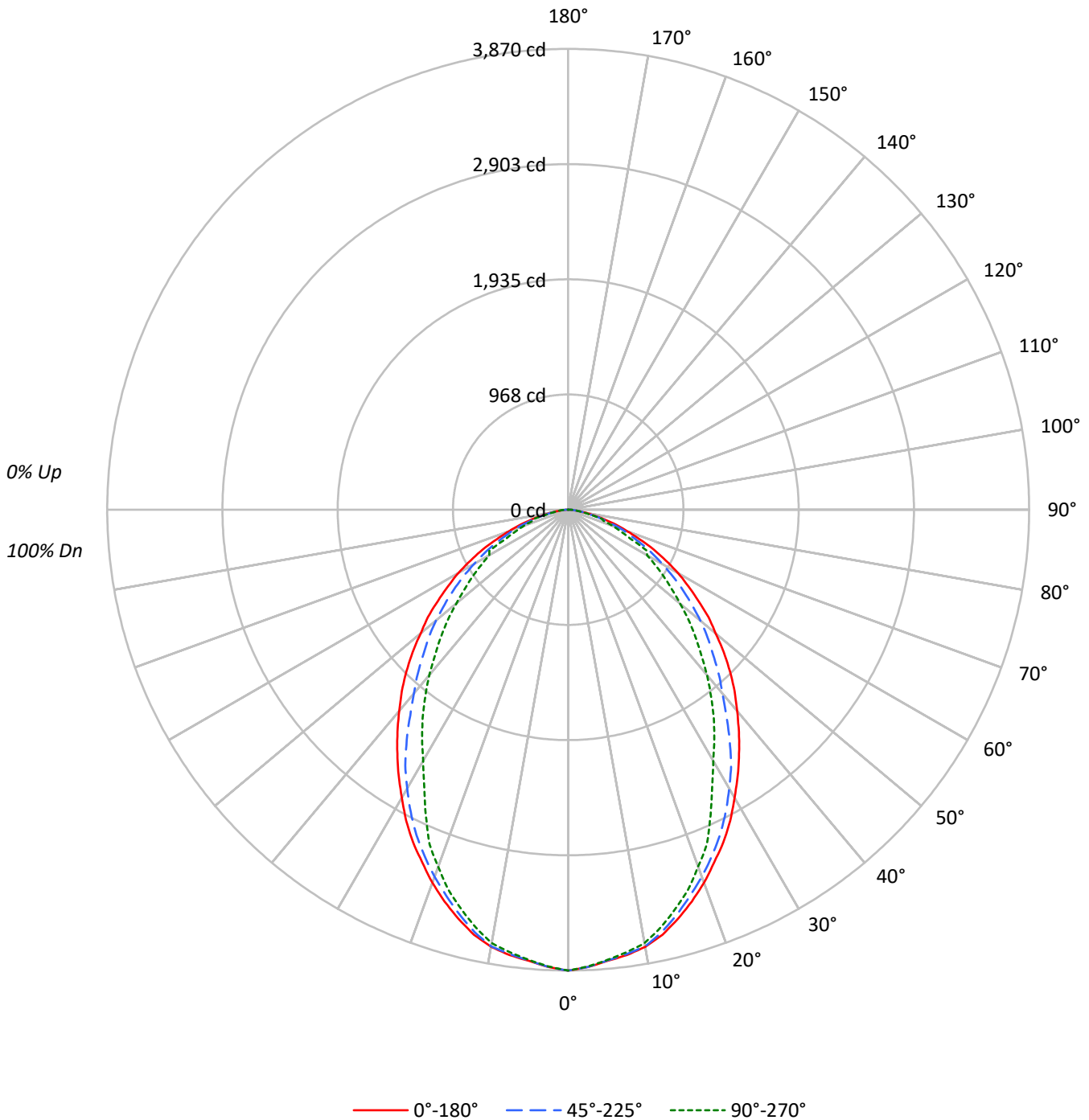
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10415	10415	10415
5°	10273	10261	10249
10°	10184	10172	10099
15°	9910	9810	9673
20°	9546	9392	9136
25°	9153	8954	8396
30°	8676	8397	7563
35°	8217	7761	6997
40°	7749	7073	6366
45°	7305	6539	5755
50°	6762	6069	5133
55°	6256	5500	4597
60°	5731	4913	4118
65°	5043	4302	3647
70°	4154	3767	3098
75°	3303	2884	3023
80°	2219	2080	1942
85°	1380	1658	1933

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7305 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.3	4.7
10°-20°	988.7	13.0
20°-30°	1368.8	18.0
30°-40°	1459.6	19.2
40°-50°	1331.6	17.5
50°-60°	1043.2	13.7
60°-70°	679.9	8.9
70°-80°	301.2	4.0
80°-90°	64.7	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°	2717.9	35.8
0°-40°	4177.5	55.0
0°-60°	6552.2	86.2
0°-90°	7598.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7598.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3870	3870	3870	3870	3870	
5°	3803	3799	3799	3794	3794	361
15°	3557	3557	3521	3486	3472	1000
25°	3083	3065	3016	2908	2828	1415
35°	2501	2483	2362	2184	2130	1564
45°	1920	1879	1718	1575	1512	1479
55°	1333	1293	1172	1034	980	1196
65°	792	747	676	689	573	780
75°	318	295	277	264	291	340
85°	45	49	54	58	63	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3870.3	3870.3	3870.3	3870.3	3870.3
2.5°	3843.5	3843.5	3843.5	3839.0	3839.0
5°	3803.2	3798.7	3798.7	3794.3	3794.3
7.5°	3771.9	3767.4	3762.9	3758.5	3749.5
10°	3727.1	3727.1	3722.7	3700.3	3695.8
12.5°	3655.6	3651.1	3633.2	3601.9	3592.9
15°	3557.1	3557.1	3521.3	3485.5	3472.1
17.5°	3449.7	3445.3	3400.5	3364.7	3346.8
20°	3333.4	3324.4	3279.7	3221.5	3190.2
22.5°	3203.6	3203.6	3149.9	3073.9	3042.6
25°	3082.8	3064.9	3015.7	2908.3	2827.8
27.5°	2944.1	2917.3	2863.6	2711.5	2617.5
30°	2792.0	2778.6	2702.5	2505.6	2434.1
32.5°	2648.8	2626.4	2545.9	2340.1	2281.9
35°	2501.2	2483.3	2362.5	2183.5	2129.8
37.5°	2353.5	2331.1	2179.0	2035.8	1968.7
40°	2205.9	2179.0	2013.5	1883.7	1812.1
42.5°	2067.2	2031.4	1870.3	1731.6	1651.0
45°	1919.5	1879.2	1718.2	1575.0	1512.3
47.5°	1771.8	1736.1	1588.4	1440.7	1369.2
50°	1615.2	1583.9	1449.7	1302.0	1226.0
52.5°	1485.5	1436.3	1306.5	1158.9	1096.2
55°	1333.4	1293.1	1172.3	1033.6	979.9
57.5°	1194.7	1154.4	1042.5	912.8	868.0
60°	1064.9	1006.7	912.8	800.9	765.1
62.5°	921.7	877.0	796.4	702.5	747.2
65°	792.0	747.2	675.6	689.1	572.7
67.5°	648.8	626.4	563.8	501.1	483.2
70°	528.0	501.1	478.8	411.6	393.7
72.5°	420.6	393.7	362.4	326.6	313.2
75°	317.7	295.3	277.4	264.0	290.8
77.5°	219.2	210.3	196.9	183.4	179.0
80°	143.2	138.7	134.2	129.8	125.3
82.5°	85.0	85.0	85.0	85.0	85.0
85°	44.7	49.2	53.7	58.2	62.6
87.5°	26.8	26.8	31.3	35.8	40.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)