

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: P561437

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561437
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-40-UNV-82-96-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7586.0 lumens
Efficiency: N/A
Efficacy: 87.8 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

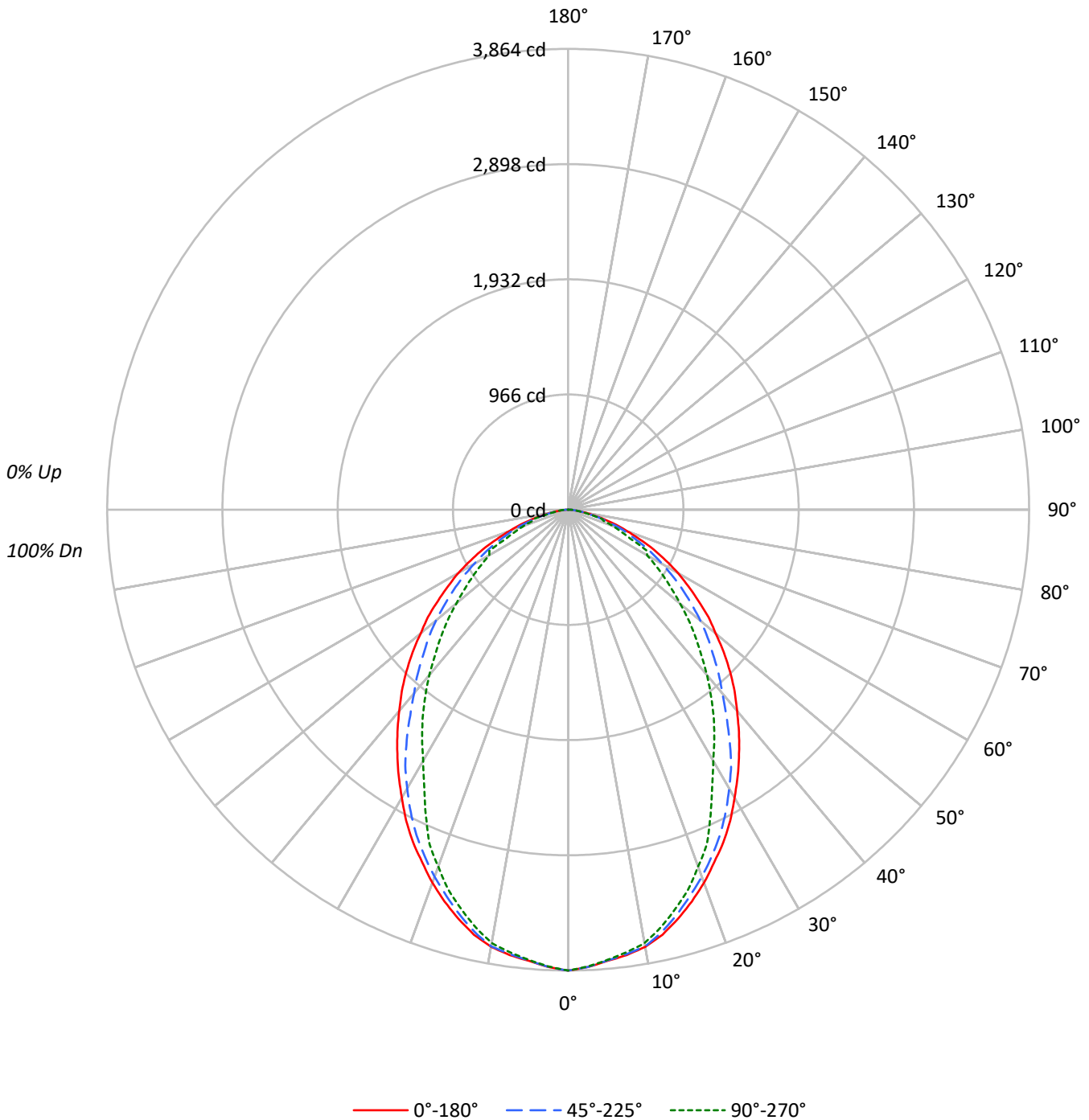
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10398	10398	10398
5°	10257	10245	10233
10°	10168	10156	10083
15°	9894	9795	9658
20°	9531	9377	9121
25°	9139	8940	8383
30°	8662	8384	7551
35°	8203	7749	6985
40°	7737	7062	6356
45°	7293	6528	5746
50°	6751	6059	5124
55°	6246	5491	4590
60°	5722	4905	4111
65°	5035	4295	3641
70°	4147	3761	3093
75°	3298	2880	3019
80°	2216	2077	1939
85°	1380	1655	1930

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7293 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	359.7	4.7
10°-20°	987.2	13.0
20°-30°	1366.7	18.0
30°-40°	1457.3	19.2
40°-50°	1329.5	17.5
50°-60°	1041.5	13.7
60°-70°	678.8	8.9
70°-80°	300.8	4.0
80°-90°	64.6	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°	2713.6	35.8
0°-40°	4170.9	55.0
0°-60°	6541.9	86.2
0°-90°	7586.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7586.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3864	3864	3864	3864	3864	
5°	3797	3793	3793	3788	3788	360
15°	3552	3552	3516	3480	3467	998
25°	3078	3060	3011	2904	2823	1413
35°	2497	2479	2359	2180	2126	1561
45°	1916	1876	1715	1572	1510	1476
55°	1331	1291	1170	1032	978	1194
65°	791	746	675	688	572	779
75°	317	295	277	264	290	340
85°	45	49	54	58	62	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3864.2	3864.2	3864.2	3864.2	3864.2
2.5°	3837.4	3837.4	3837.4	3832.9	3832.9
5°	3797.2	3792.7	3792.7	3788.3	3788.3
7.5°	3765.9	3761.5	3757.0	3752.5	3743.6
10°	3721.3	3721.3	3716.8	3694.4	3690.0
12.5°	3649.8	3645.3	3627.4	3596.2	3587.2
15°	3551.5	3551.5	3515.8	3480.0	3466.6
17.5°	3444.3	3439.8	3395.1	3359.4	3341.5
20°	3328.1	3319.2	3274.5	3216.4	3185.2
22.5°	3198.6	3198.6	3145.0	3069.0	3037.8
25°	3078.0	3060.1	3011.0	2903.7	2823.3
27.5°	2939.5	2912.7	2859.1	2707.2	2613.4
30°	2787.6	2774.2	2698.2	2501.7	2430.2
32.5°	2644.6	2622.3	2541.9	2336.4	2278.3
35°	2497.2	2479.3	2358.7	2180.0	2126.4
37.5°	2349.8	2327.5	2175.6	2032.6	1965.6
40°	2202.4	2175.6	2010.3	1880.7	1809.3
42.5°	2063.9	2028.2	1867.3	1728.8	1648.4
45°	1916.5	1876.3	1715.4	1572.5	1509.9
47.5°	1769.0	1733.3	1585.9	1438.5	1367.0
50°	1612.7	1581.4	1447.4	1300.0	1224.0
52.5°	1483.1	1434.0	1304.4	1157.0	1094.5
55°	1331.3	1291.0	1170.4	1031.9	978.3
57.5°	1192.8	1152.6	1040.9	911.3	866.7
60°	1063.2	1005.1	911.3	799.6	763.9
62.5°	920.3	875.6	795.2	701.4	746.0
65°	790.7	746.0	674.6	688.0	571.8
67.5°	647.8	625.4	562.9	500.3	482.5
70°	527.1	500.3	478.0	411.0	393.1
72.5°	419.9	393.1	361.9	326.1	312.7
75°	317.2	294.8	277.0	263.6	290.4
77.5°	218.9	210.0	196.6	183.2	178.7
80°	143.0	138.5	134.0	129.6	125.1
82.5°	84.9	84.9	84.9	84.9	84.9
85°	44.7	49.1	53.6	58.1	62.5
87.5°	26.8	26.8	31.3	35.7	40.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)