

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: P561373

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561373
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7511.0 lumens
Efficiency: N/A
Efficacy: 86.9 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

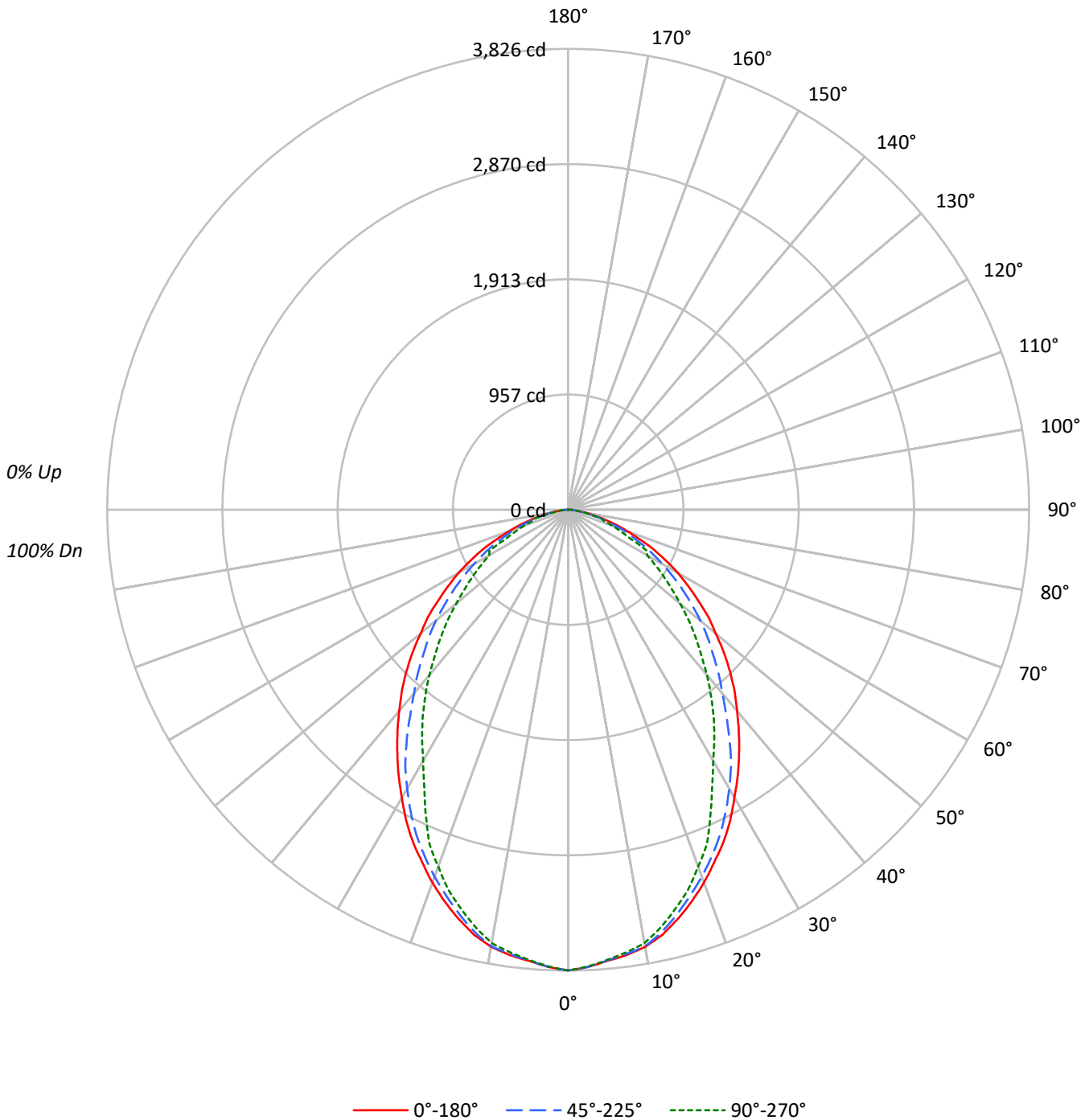
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10296	10296	10296
5°	10156	10144	10132
10°	10068	10056	9983
15°	9796	9698	9562
20°	9436	9285	9031
25°	9049	8852	8300
30°	8576	8301	7477
35°	8122	7672	6916
40°	7660	6992	6293
45°	7221	6464	5689
50°	6684	6000	5074
55°	6184	5437	4545
60°	5666	4856	4071
65°	4985	4253	3605
70°	4106	3724	3062
75°	3265	2851	2989
80°	2193	2056	1918
85°	1365	1639	1911

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7221 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	356.1	4.7
10°-20°	977.4	13.0
20°-30°	1353.2	18.0
30°-40°	1442.9	19.2
40°-50°	1316.3	17.5
50°-60°	1031.2	13.7
60°-70°	672.1	8.9
70°-80°	297.8	4.0
80°-90°	63.9	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°	2686.7	35.8
0°-40°	4129.6	55.0
0°-60°	6477.2	86.2
0°-90°	7511.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7511.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3826	3826	3826	3826	3826	
5°	3760	3755	3755	3751	3751	357
15°	3516	3516	3481	3446	3432	989
25°	3048	3030	2981	2875	2795	1399
35°	2472	2455	2335	2158	2105	1546
45°	1898	1858	1698	1557	1495	1462
55°	1318	1278	1159	1022	969	1182
65°	783	739	668	681	566	772
75°	314	292	274	261	288	337
85°	44	49	53	58	62	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3826.0	3826.0	3826.0	3826.0	3826.0
2.5°	3799.5	3799.5	3799.5	3795.0	3795.0
5°	3759.7	3755.2	3755.2	3750.8	3750.8
7.5°	3728.7	3724.3	3719.8	3715.4	3706.6
10°	3684.5	3684.5	3680.0	3657.9	3653.5
12.5°	3613.7	3609.3	3591.6	3560.6	3551.8
15°	3516.4	3516.4	3481.0	3445.6	3432.3
17.5°	3410.2	3405.8	3361.6	3326.2	3308.5
20°	3295.2	3286.4	3242.2	3184.6	3153.7
22.5°	3167.0	3167.0	3113.9	3038.7	3007.7
25°	3047.5	3029.8	2981.2	2875.0	2795.4
27.5°	2910.4	2883.9	2830.8	2680.4	2587.5
30°	2760.0	2746.8	2671.6	2476.9	2406.2
32.5°	2618.5	2596.4	2516.8	2313.3	2255.8
35°	2472.5	2454.8	2335.4	2158.5	2105.4
37.5°	2326.6	2304.4	2154.1	2012.5	1946.2
40°	2180.6	2154.1	1990.4	1862.1	1791.4
42.5°	2043.5	2008.1	1848.9	1711.7	1632.1
45°	1897.5	1857.7	1698.5	1556.9	1495.0
47.5°	1751.6	1716.2	1570.2	1424.2	1353.5
50°	1596.7	1565.8	1433.1	1287.1	1211.9
52.5°	1468.5	1419.8	1291.6	1145.6	1083.7
55°	1318.1	1278.3	1158.9	1021.7	968.7
57.5°	1181.0	1141.2	1030.6	902.3	858.1
60°	1052.7	995.2	902.3	791.7	756.4
62.5°	911.2	866.9	787.3	694.4	738.7
65°	782.9	738.7	667.9	681.2	566.2
67.5°	641.4	619.2	557.3	495.4	477.7
70°	521.9	495.4	473.3	406.9	389.2
72.5°	415.8	389.2	358.3	322.9	309.6
75°	314.0	291.9	274.2	261.0	287.5
77.5°	216.7	207.9	194.6	181.3	176.9
80°	141.5	137.1	132.7	128.3	123.8
82.5°	84.0	84.0	84.0	84.0	84.0
85°	44.2	48.7	53.1	57.5	61.9
87.5°	26.5	26.5	31.0	35.4	39.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)