

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: P561347

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-81-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561347
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-81-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7587.0 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

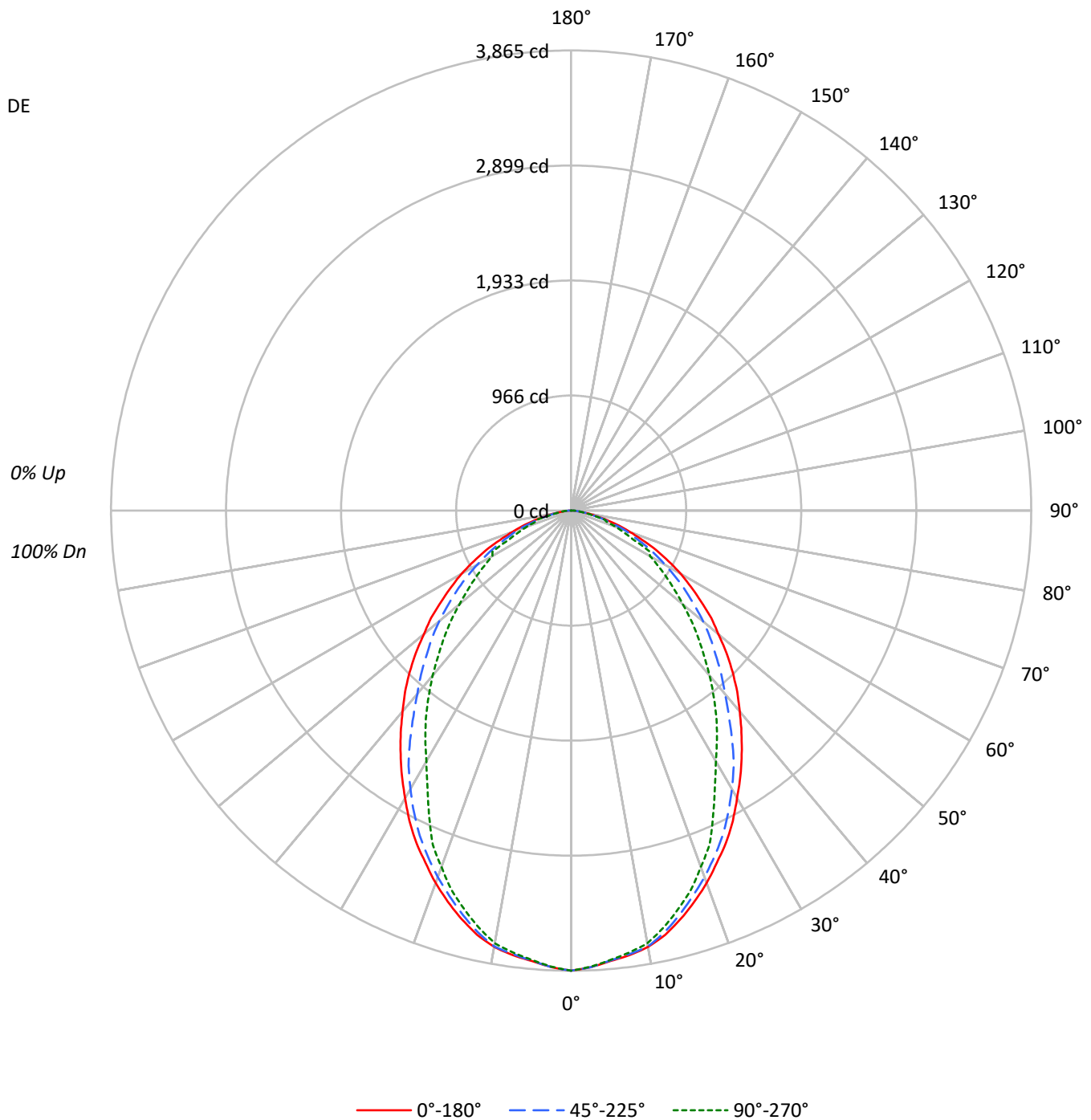
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10400	10400	10400
5°	10259	10246	10235
10°	10170	10157	10084
15°	9896	9796	9659
20°	9532	9379	9123
25°	9140	8941	8384
30°	8663	8385	7552
35°	8204	7750	6986
40°	7738	7063	6356
45°	7294	6529	5747
50°	6752	6060	5125
55°	6246	5492	4591
60°	5723	4905	4112
65°	5035	4295	3642
70°	4148	3762	3094
75°	3298	2880	3019
80°	2216	2077	1939
85°	1380	1655	1933

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7294 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	359.8	4.7
10°-20°	987.3	13.0
20°-30°	1366.9	18.0
30°-40°	1457.5	19.2
40°-50°	1329.6	17.5
50°-60°	1041.7	13.7
60°-70°	678.9	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°	2713.9	35.8
0°-40°	4171.4	55.0
0°-60°	6542.7	86.2
0°-90°	7587.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7587.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3865	3865	3865	3865	3865	
5°	3798	3793	3793	3789	3789	360
15°	3552	3552	3516	3480	3467	999
25°	3078	3060	3011	2904	2824	1413
35°	2498	2480	2359	2180	2127	1561
45°	1917	1876	1716	1573	1510	1476
55°	1331	1291	1171	1032	978	1194
65°	791	746	675	688	572	779
75°	317	295	277	264	290	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°	3864.7	3864.7	3864.7	3864.7	3864.7
2.5°	3837.9	3837.9	3837.9	3833.4	3833.4
5°	3797.7	3793.2	3793.2	3788.8	3788.8
7.5°	3766.4	3762.0	3757.5	3753.0	3744.1
10°	3721.7	3721.7	3717.3	3694.9	3690.5
12.5°	3650.3	3645.8	3627.9	3596.6	3587.7
15°	3552.0	3552.0	3516.2	3480.5	3467.1
17.5°	3444.7	3440.3	3395.6	3359.8	3342.0
20°	3328.6	3319.6	3275.0	3216.9	3185.6
22.5°	3199.0	3199.0	3145.4	3069.4	3038.2
25°	3078.4	3060.5	3011.4	2904.1	2823.7
27.5°	2939.9	2913.1	2859.4	2707.5	2613.7
30°	2788.0	2774.6	2698.6	2502.0	2430.5
32.5°	2645.0	2622.6	2542.2	2336.7	2278.6
35°	2497.5	2479.7	2359.0	2180.3	2126.7
37.5°	2350.1	2327.8	2175.9	2032.9	1965.9
40°	2202.7	2175.9	2010.5	1881.0	1809.5
42.5°	2064.2	2028.4	1867.6	1729.1	1648.6
45°	1916.7	1876.5	1715.7	1572.7	1510.1
47.5°	1769.3	1733.5	1586.1	1438.7	1367.2
50°	1612.9	1581.6	1447.6	1300.2	1224.2
52.5°	1483.3	1434.2	1304.6	1157.2	1094.6
55°	1331.4	1291.2	1170.6	1032.1	978.5
57.5°	1192.9	1152.7	1041.0	911.4	866.8
60°	1063.4	1005.3	911.4	799.8	764.0
62.5°	920.4	875.7	795.3	701.5	746.1
65°	790.8	746.1	674.6	688.1	571.9
67.5°	647.8	625.5	563.0	500.4	482.5
70°	527.2	500.4	478.1	411.0	393.2
72.5°	420.0	393.2	361.9	326.2	312.8
75°	317.2	294.9	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	62.6
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)