

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: P561877

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561877
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-LD4-2STD-50-UNV-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6149.0 lumens
Efficiency: N/A
Efficacy: 92.3 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

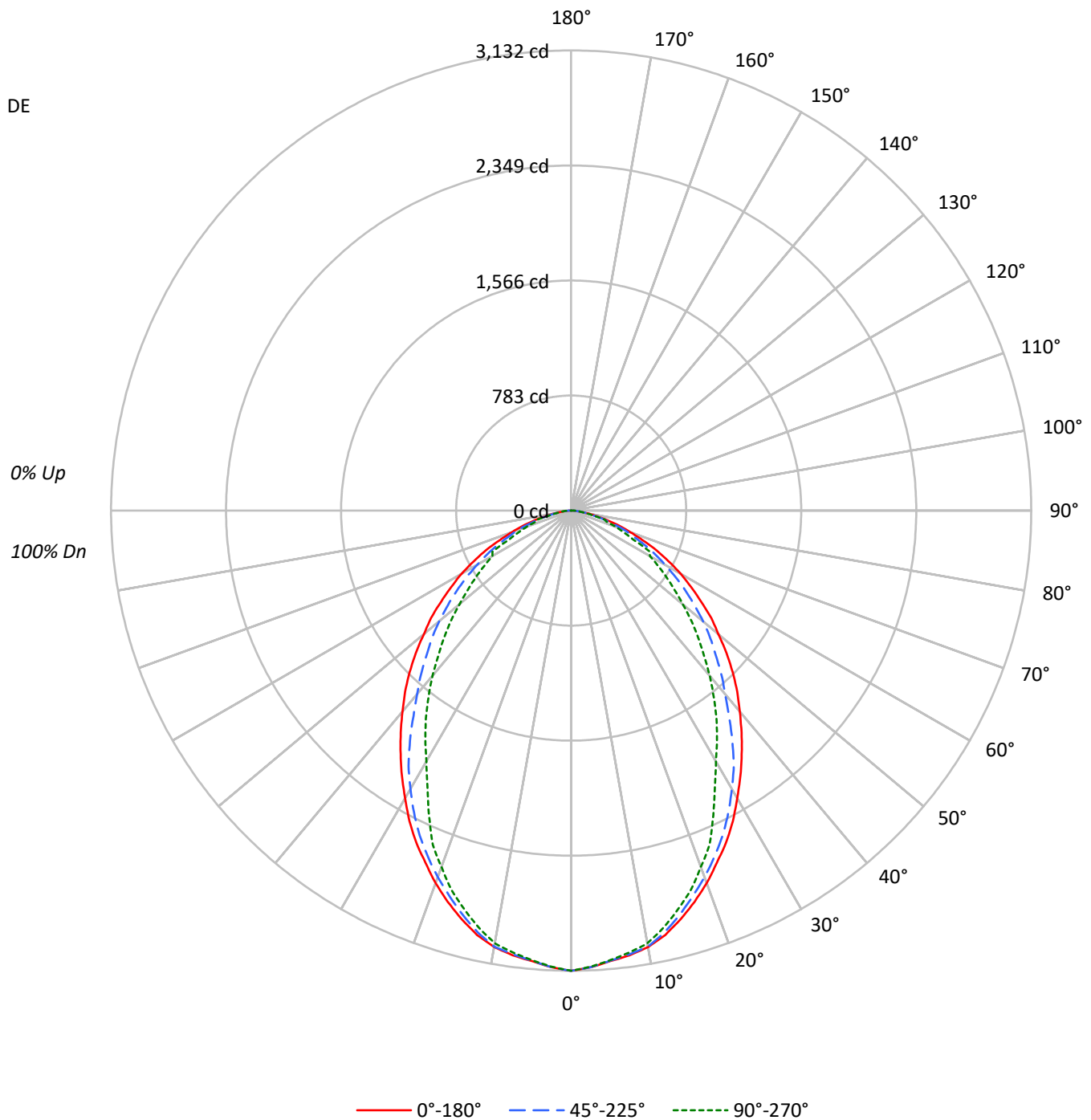
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8429	8429	8429
5°	8314	8304	8295
10°	8242	8232	8173
15°	8020	7939	7828
20°	7725	7601	7393
25°	7408	7247	6795
30°	7021	6796	6121
35°	6650	6281	5662
40°	6271	5724	5152
45°	5912	5292	4658
50°	5472	4912	4154
55°	5063	4451	3720
60°	4638	3976	3333
65°	4081	3482	2951
70°	3362	3049	2507
75°	2673	2334	2447
80°	1796	1683	1571
85°	1118	1343	1565

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5912 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.6	4.7
10°-20°	800.2	13.0
20°-30°	1107.8	18.0
30°-40°	1181.2	19.2
40°-50°	1077.6	17.5
50°-60°	844.2	13.7
60°-70°	550.2	8.9
70°-80°	243.8	4.0
80°-90°	52.3	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°	2199.5	35.8
0°-40°	3380.8	55.0
0°-60°	5302.7	86.2
0°-90°	6149.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6149.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3132	3132	3132	3132	3132	
5°	3078	3074	3074	3071	3071	292
15°	2879	2879	2850	2821	2810	809
25°	2495	2480	2441	2354	2288	1145
35°	2024	2010	1912	1767	1724	1265
45°	1553	1521	1390	1275	1224	1197
55°	1079	1046	949	836	793	968
65°	641	605	547	558	464	632
75°	257	239	224	214	235	276
85°	36	40	44	47	51	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3132.2	3132.2	3132.2	3132.2	3132.2
2.5°	3110.5	3110.5	3110.5	3106.9	3106.9
5°	3077.9	3074.3	3074.3	3070.7	3070.7
7.5°	3052.6	3048.9	3045.3	3041.7	3034.4
10°	3016.3	3016.3	3012.7	2994.6	2991.0
12.5°	2958.4	2954.8	2940.3	2915.0	2907.7
15°	2878.7	2878.7	2849.8	2820.8	2809.9
17.5°	2791.8	2788.2	2752.0	2723.0	2708.6
20°	2697.7	2690.4	2654.2	2607.2	2581.8
22.5°	2592.7	2592.7	2549.2	2487.7	2462.3
25°	2494.9	2480.4	2440.6	2353.7	2288.5
27.5°	2382.7	2360.9	2317.5	2194.4	2118.3
30°	2259.5	2248.7	2187.1	2027.8	1969.9
32.5°	2143.7	2125.6	2060.4	1893.8	1846.7
35°	2024.2	2009.7	1911.9	1767.1	1723.6
37.5°	1904.7	1886.6	1763.5	1647.6	1593.3
40°	1785.2	1763.5	1629.5	1524.5	1466.5
42.5°	1672.9	1644.0	1513.6	1401.4	1336.2
45°	1553.4	1520.8	1390.5	1274.6	1223.9
47.5°	1433.9	1405.0	1285.5	1166.0	1108.0
50°	1307.2	1281.9	1173.2	1053.7	992.2
52.5°	1202.2	1162.4	1057.4	937.9	887.2
55°	1079.1	1046.5	948.7	836.5	793.0
57.5°	966.8	934.2	843.7	738.7	702.5
60°	861.8	814.7	738.7	648.2	619.2
62.5°	745.9	709.7	644.5	568.5	604.7
65°	640.9	604.7	546.8	557.6	463.5
67.5°	525.1	506.9	456.3	405.6	391.1
70°	427.3	405.6	387.5	333.1	318.7
72.5°	340.4	318.7	293.3	264.3	253.5
75°	257.1	239.0	224.5	213.6	235.4
77.5°	177.4	170.2	159.3	148.5	144.8
80°	115.9	112.3	108.6	105.0	101.4
82.5°	68.8	68.8	68.8	68.8	68.8
85°	36.2	39.8	43.5	47.1	50.7
87.5°	21.7	21.7	25.3	29.0	32.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)