

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: P561473

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561473
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-81-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7951.0 lumens
Efficiency: N/A
Efficacy: 92.0 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

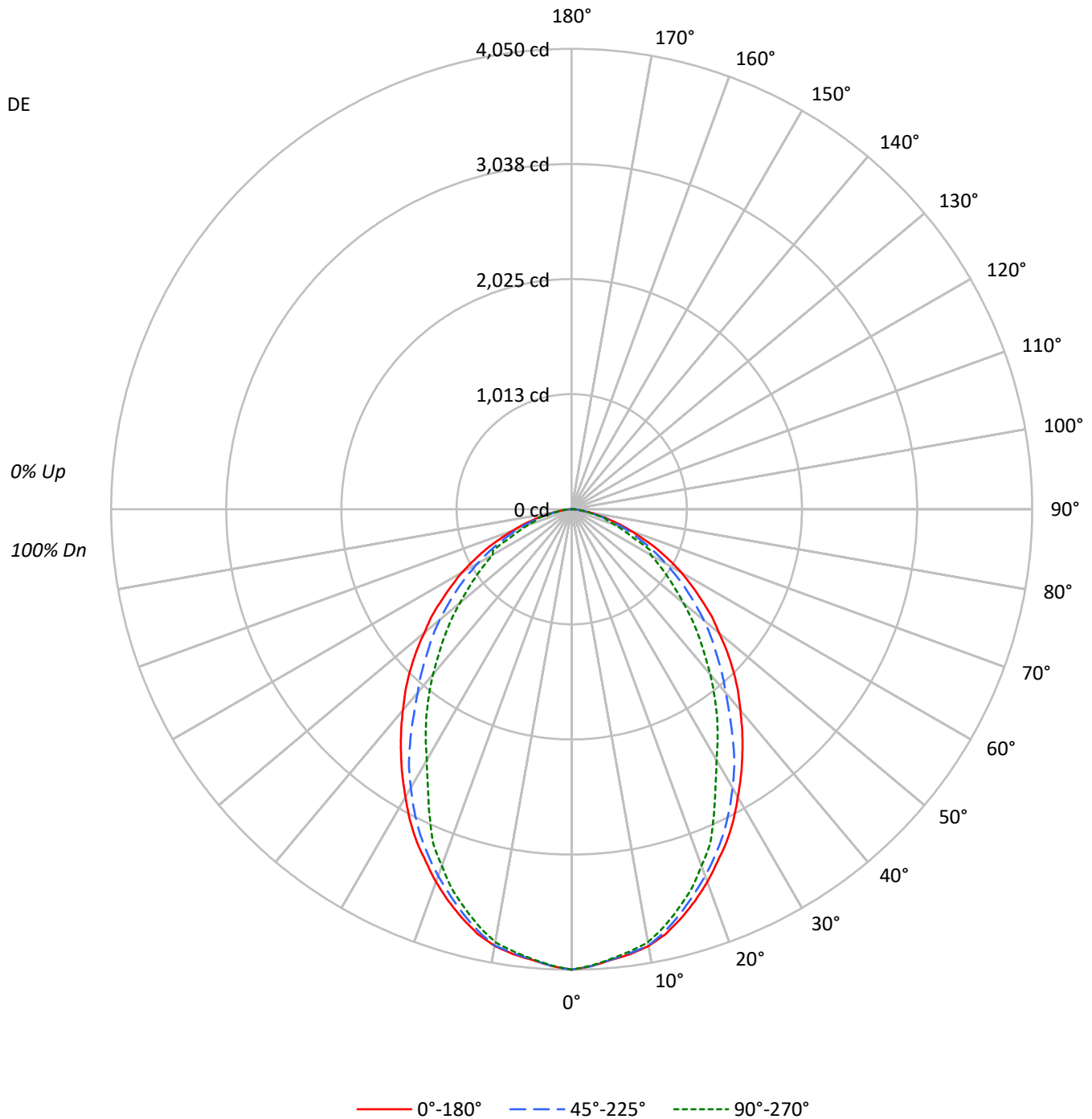
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10899	10899	10899
5°	10751	10738	10725
10°	10658	10645	10568
15°	10370	10266	10122
20°	9989	9828	9560
25°	9579	9370	8786
30°	9079	8788	7915
35°	8598	8121	7321
40°	8109	7402	6661
45°	7644	6843	6023
50°	7076	6351	5371
55°	6546	5755	4811
60°	5998	5141	4309
65°	5277	4502	3816
70°	4347	3942	3242
75°	3456	3018	3164
80°	2321	2177	2032
85°	1445	1735	2025

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7644 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	377.0	4.7
10°-20°	1034.7	13.0
20°-30°	1432.4	18.0
30°-40°	1527.4	19.2
40°-50°	1393.4	17.5
50°-60°	1091.6	13.7
60°-70°	711.5	8.9
70°-80°	315.2	4.0
80°-90°	67.7	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°	2844.1	35.8
0°-40°	4371.5	55.0
0°-60°	6856.6	86.2
0°-90°	7951.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7951.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4050	4050	4050	4050	4050	
5°	3980	3975	3975	3970	3970	378
15°	3722	3722	3685	3648	3633	1046
25°	3226	3207	3156	3044	2959	1481
35°	2617	2599	2472	2285	2229	1636
45°	2009	1966	1798	1648	1583	1547
55°	1395	1353	1227	1082	1025	1252
65°	829	782	707	721	599	817
75°	332	309	290	276	304	356
85°	47	52	56	61	66	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4050.1	4050.1	4050.1	4050.1	4050.1
2.5°	4022.0	4022.0	4022.0	4017.4	4017.4
5°	3979.9	3975.2	3975.2	3970.5	3970.5
7.5°	3947.1	3942.4	3937.8	3933.1	3923.7
10°	3900.3	3900.3	3895.6	3872.2	3867.5
12.5°	3825.4	3820.7	3802.0	3769.2	3759.8
15°	3722.4	3722.4	3684.9	3647.5	3633.4
17.5°	3610.0	3605.3	3558.5	3521.0	3502.3
20°	3488.3	3478.9	3432.1	3371.2	3338.4
22.5°	3352.5	3352.5	3296.3	3216.7	3183.9
25°	3226.1	3207.3	3155.8	3043.5	2959.2
27.5°	3080.9	3052.8	2996.6	2837.4	2739.1
30°	2921.7	2907.7	2828.1	2622.1	2547.1
32.5°	2771.9	2748.5	2664.2	2448.8	2387.9
35°	2617.4	2598.6	2472.2	2284.9	2228.7
37.5°	2462.9	2439.4	2280.2	2130.4	2060.2
40°	2308.3	2280.2	2107.0	1971.2	1896.3
42.5°	2163.2	2125.7	1957.2	1812.0	1727.7
45°	2008.7	1966.5	1798.0	1648.1	1582.6
47.5°	1854.2	1816.7	1662.2	1507.7	1432.8
50°	1690.3	1657.5	1517.0	1362.5	1282.9
52.5°	1554.5	1503.0	1367.2	1212.7	1147.1
55°	1395.3	1353.2	1226.7	1081.6	1025.4
57.5°	1250.2	1208.0	1091.0	955.2	908.4
60°	1114.4	1053.5	955.2	838.1	800.7
62.5°	964.5	917.7	833.4	735.1	781.9
65°	828.8	781.9	707.0	721.1	599.3
67.5°	678.9	655.5	590.0	524.4	505.7
70°	552.5	524.4	501.0	430.8	412.0
72.5°	440.1	412.0	379.3	341.8	327.8
75°	332.4	309.0	290.3	276.3	304.3
77.5°	229.4	220.1	206.0	192.0	187.3
80°	149.8	145.1	140.5	135.8	131.1
82.5°	89.0	89.0	89.0	89.0	89.0
85°	46.8	51.5	56.2	60.9	65.6
87.5°	28.1	28.1	32.8	37.5	42.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)