

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: P561509

Luminaire Tested: FSR-12-4-LD4-2HI-50-UNV-93-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561509
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-93-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8126.0 lumens
Efficiency: N/A
Efficacy: 94.1 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

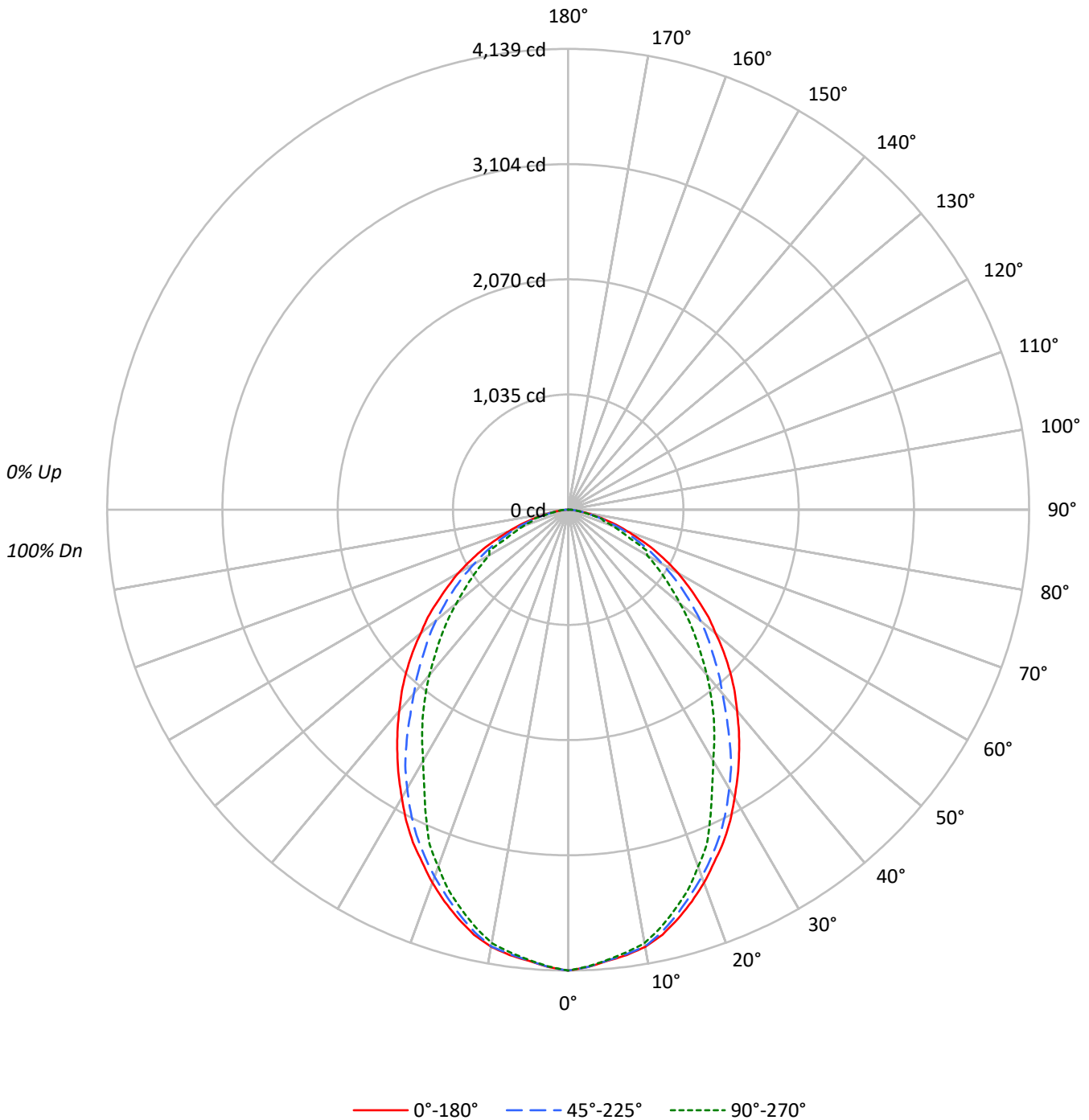
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	11139	11139	11139
5°	10987	10974	10961
10°	10892	10879	10800
15°	10598	10492	10345
20°	10209	10045	9771
25°	9790	9576	8980
30°	9278	8981	8089
35°	8788	8300	7483
40°	8287	7565	6808
45°	7813	6993	6155
50°	7232	6491	5489
55°	6690	5882	4917
60°	6130	5254	4404
65°	5393	4601	3900
70°	4443	4028	3313
75°	3533	3085	3234
80°	2373	2225	2077
85°	1479	1772	2069

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7813 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	385.3	4.7
10°-20°	1057.5	13.0
20°-30°	1464.0	18.0
30°-40°	1561.0	19.2
40°-50°	1424.1	17.5
50°-60°	1115.7	13.7
60°-70°	727.1	8.9
70°-80°	322.2	4.0
80°-90°	69.2	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°	2906.7	35.8
0°-40°	4467.7	55.0
0°-60°	7007.5	86.2
0°-90°	8126.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8126.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4139	4139	4139	4139	4139	
5°	4068	4063	4063	4058	4058	386
15°	3804	3804	3766	3728	3713	1069
25°	3297	3278	3225	3110	3024	1514
35°	2675	2656	2527	2335	2278	1672
45°	2053	2010	1838	1684	1617	1581
55°	1426	1383	1254	1105	1048	1279
65°	847	799	723	737	612	835
75°	340	316	297	282	311	364
85°	48	53	57	62	67	66
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4139.3	4139.3	4139.3	4139.3	4139.3
2.5°	4110.6	4110.6	4110.6	4105.8	4105.8
5°	4067.5	4062.7	4062.7	4057.9	4057.9
7.5°	4034.0	4029.2	4024.4	4019.6	4010.1
10°	3986.1	3986.1	3981.4	3957.4	3952.6
12.5°	3909.6	3904.8	3885.7	3852.2	3842.6
15°	3804.3	3804.3	3766.0	3727.7	3713.4
17.5°	3689.5	3684.7	3636.8	3598.5	3579.4
20°	3565.0	3555.5	3507.6	3445.4	3411.9
22.5°	3426.3	3426.3	3368.8	3287.5	3254.0
25°	3297.1	3277.9	3225.3	3110.4	3024.3
27.5°	3148.7	3120.0	3062.6	2899.9	2799.4
30°	2986.0	2971.7	2890.3	2679.8	2603.2
32.5°	2832.9	2809.0	2722.8	2502.7	2440.5
35°	2675.0	2655.8	2526.6	2335.2	2277.8
37.5°	2517.1	2493.1	2330.4	2177.3	2105.5
40°	2359.1	2330.4	2153.4	2014.6	1938.0
42.5°	2210.8	2172.5	2000.3	1851.9	1765.8
45°	2052.9	2009.8	1837.6	1684.4	1617.4
47.5°	1895.0	1856.7	1698.8	1540.9	1464.3
50°	1727.5	1694.0	1550.4	1392.5	1311.2
52.5°	1588.7	1536.1	1397.3	1239.4	1172.4
55°	1426.0	1382.9	1253.7	1105.4	1048.0
57.5°	1277.7	1234.6	1115.0	976.2	928.3
60°	1138.9	1076.7	976.2	856.6	818.3
62.5°	985.8	937.9	851.8	751.3	799.1
65°	847.0	799.1	722.6	736.9	612.5
67.5°	693.9	669.9	602.9	536.0	516.8
70°	564.7	536.0	512.0	440.2	421.1
72.5°	449.8	421.1	387.6	349.3	335.0
75°	339.8	315.8	296.7	282.3	311.0
77.5°	234.5	224.9	210.6	196.2	191.4
80°	153.1	148.3	143.6	138.8	134.0
82.5°	90.9	90.9	90.9	90.9	90.9
85°	47.9	52.6	57.4	62.2	67.0
87.5°	28.7	28.7	33.5	38.3	43.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)