

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: P561377

Luminaire Tested: FSR-12-4-LD4-2HI-35-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561377
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-93-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8164.0 lumens
Efficiency: N/A
Efficacy: 94.5 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

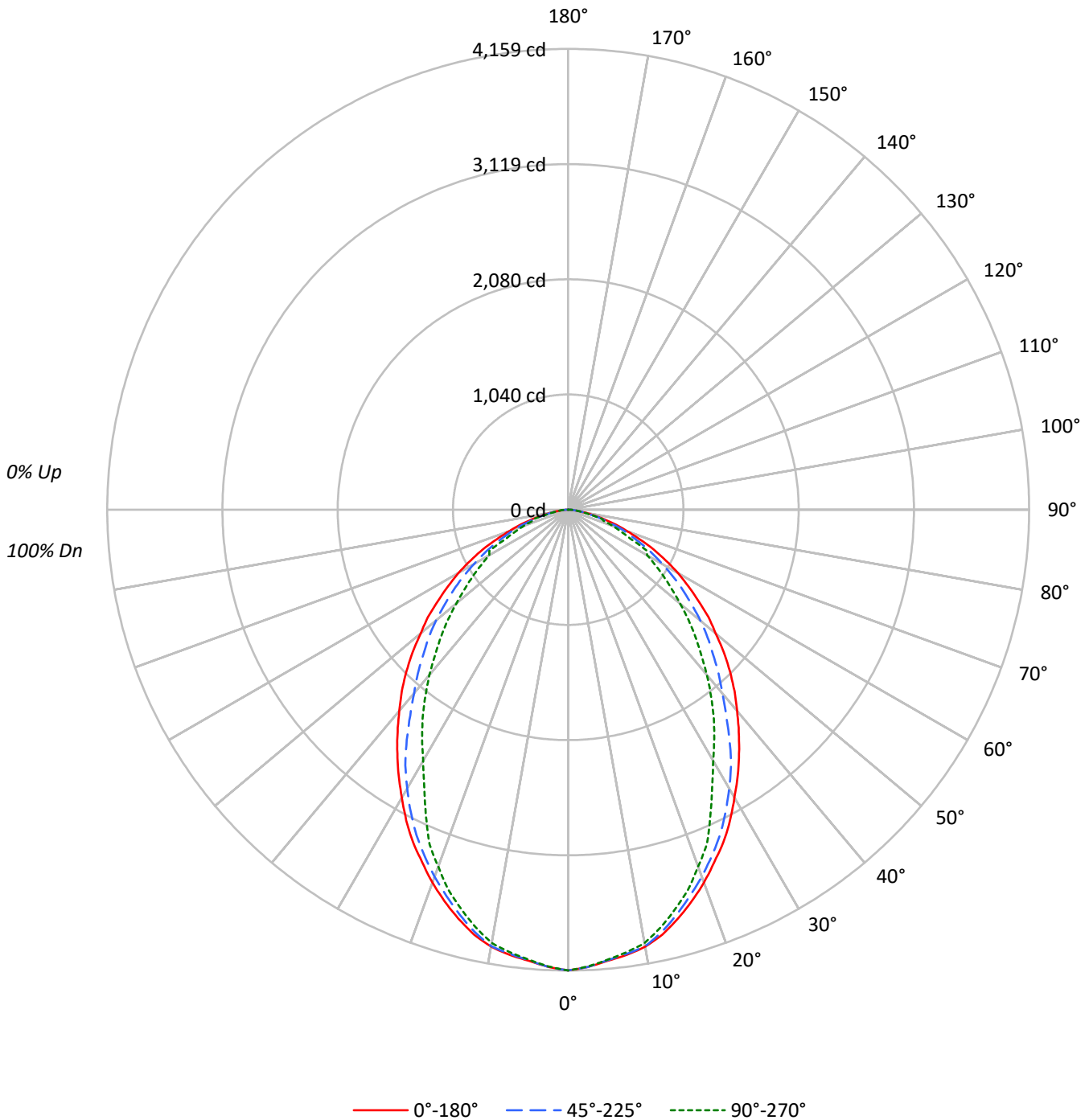
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11191	11191	11191
5°	11039	11026	11013
10°	10943	10930	10851
15°	10648	10541	10394
20°	10257	10092	9816
25°	9835	9621	9022
30°	9322	9023	8127
35°	8829	8339	7518
40°	8326	7600	6840
45°	7849	7026	6184
50°	7266	6521	5515
55°	6722	5910	4940
60°	6158	5279	4425
65°	5419	4623	3918
70°	4463	4047	3329
75°	3549	3099	3249
80°	2383	2235	2086
85°	1485	1782	2078

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7849 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	387.1	4.7
10°-20°	1062.4	13.0
20°-30°	1470.8	18.0
30°-40°	1568.3	19.2
40°-50°	1430.8	17.5
50°-60°	1120.9	13.7
60°-70°	730.6	8.9
70°-80°	323.7	4.0
80°-90°	69.5	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°	2920.3	35.8
0°-40°	4488.6	55.0
0°-60°	7040.3	86.2
0°-90°	8164.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8164.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4159	4159	4159	4159	4159	
5°	4086	4082	4082	4077	4077	388
15°	3822	3822	3784	3745	3731	1074
25°	3312	3293	3240	3125	3038	1521
35°	2688	2668	2538	2346	2288	1680
45°	2062	2019	1846	1692	1625	1589
55°	1433	1389	1260	1111	1053	1285
65°	851	803	726	740	615	839
75°	341	317	298	284	312	366
85°	48	53	58	62	67	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4158.6	4158.6	4158.6	4158.6	4158.6
2.5°	4129.8	4129.8	4129.8	4125.0	4125.0
5°	4086.5	4081.7	4081.7	4076.9	4076.9
7.5°	4052.9	4048.1	4043.2	4038.4	4028.8
10°	4004.8	4004.8	4000.0	3975.9	3971.1
12.5°	3927.9	3923.1	3903.8	3870.2	3860.6
15°	3822.1	3822.1	3783.6	3745.2	3730.8
17.5°	3706.7	3701.9	3653.8	3615.4	3596.1
20°	3581.7	3572.1	3524.0	3461.5	3427.9
22.5°	3442.3	3442.3	3384.6	3302.9	3269.2
25°	3312.5	3293.3	3240.4	3125.0	3038.4
27.5°	3163.4	3134.6	3076.9	2913.4	2812.5
30°	3000.0	2985.6	2903.8	2692.3	2615.4
32.5°	2846.1	2822.1	2735.6	2514.4	2451.9
35°	2687.5	2668.3	2538.4	2346.1	2288.4
37.5°	2528.8	2504.8	2341.3	2187.5	2115.4
40°	2370.2	2341.3	2163.5	2024.0	1947.1
42.5°	2221.1	2182.7	2009.6	1860.6	1774.0
45°	2062.5	2019.2	1846.1	1692.3	1625.0
47.5°	1903.8	1865.4	1706.7	1548.1	1471.1
50°	1735.6	1701.9	1557.7	1399.0	1317.3
52.5°	1596.1	1543.3	1403.8	1245.2	1177.9
55°	1432.7	1389.4	1259.6	1110.6	1052.9
57.5°	1283.6	1240.4	1120.2	980.8	932.7
60°	1144.2	1081.7	980.8	860.6	822.1
62.5°	990.4	942.3	855.8	754.8	802.9
65°	851.0	802.9	726.0	740.4	615.4
67.5°	697.1	673.1	605.8	538.5	519.2
70°	567.3	538.5	514.4	442.3	423.1
72.5°	451.9	423.1	389.4	351.0	336.5
75°	341.3	317.3	298.1	283.7	312.5
77.5°	235.6	226.0	211.5	197.1	192.3
80°	153.8	149.0	144.2	139.4	134.6
82.5°	91.3	91.3	91.3	91.3	91.3
85°	48.1	52.9	57.7	62.5	67.3
87.5°	28.8	28.8	33.7	38.5	43.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)