

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: P561441

Luminaire Tested: FSR-12-4-LD4-2HI-40-UNV-93-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561441
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8246.0 lumens
Efficiency: N/A
Efficacy: 95.4 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

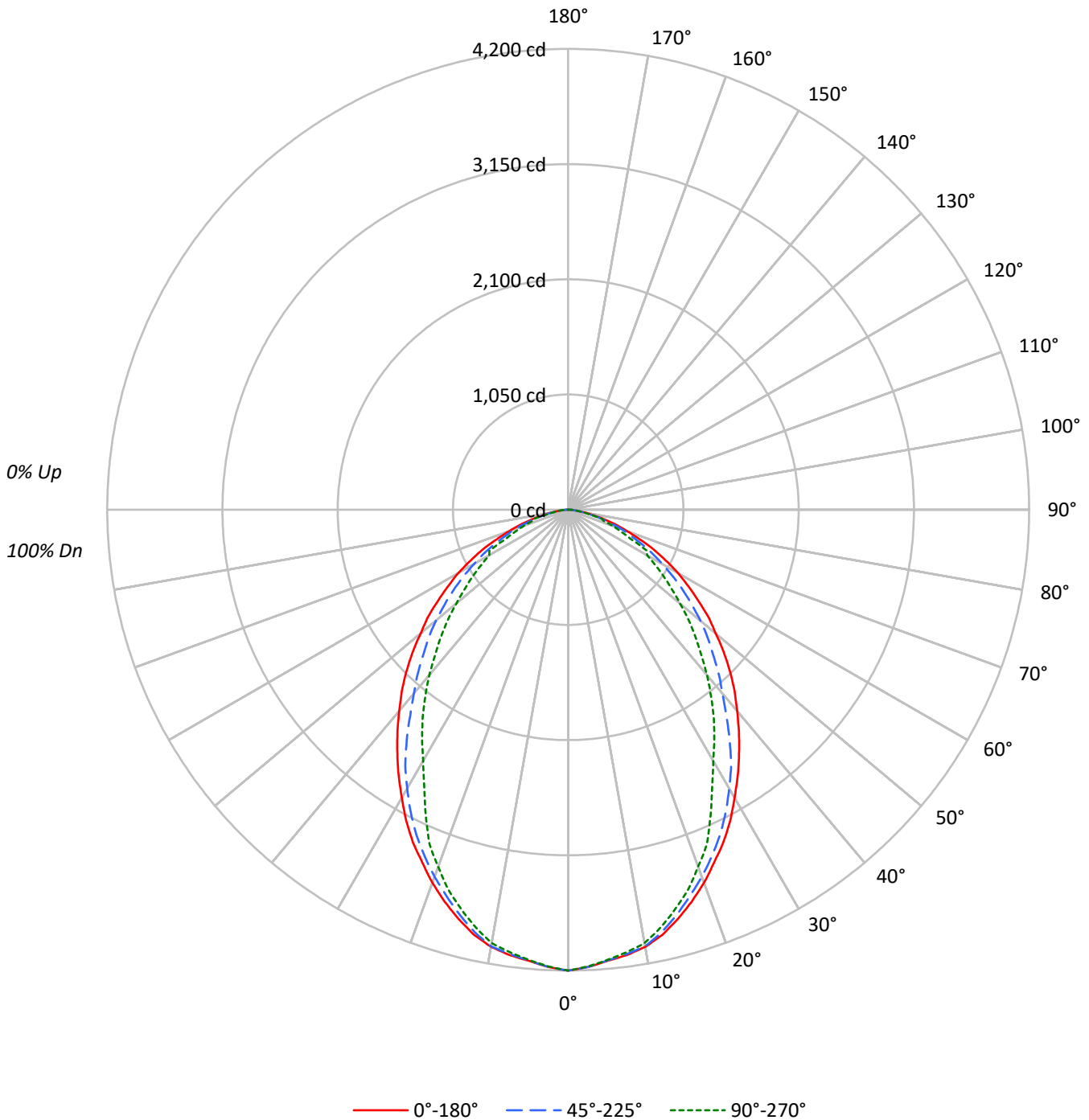
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	11303	11303	11303
5°	11150	11136	11124
10°	11053	11040	10960
15°	10755	10647	10498
20°	10360	10193	9915
25°	9934	9718	9112
30°	9415	9114	8208
35°	8917	8423	7593
40°	8410	7676	6909
45°	7928	7096	6246
50°	7339	6586	5570
55°	6789	5969	4989
60°	6220	5331	4469
65°	5473	4669	3958
70°	4508	4088	3362
75°	3585	3131	3281
80°	2408	2258	2108
85°	1501	1800	2100

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7928 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	391.0	4.7
10°-20°	1073.1	13.0
20°-30°	1485.6	18.0
30°-40°	1584.1	19.2
40°-50°	1445.1	17.5
50°-60°	1132.1	13.7
60°-70°	737.9	8.9
70°-80°	326.9	4.0
80°-90°	70.2	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°	2949.7	35.8
0°-40°	4533.7	55.0
0°-60°	7111.0	86.2
0°-90°	8246.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8246.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4200	4200	4200	4200	4200	
5°	4128	4123	4123	4118	4118	392
15°	3860	3860	3822	3783	3768	1085
25°	3346	3326	3273	3156	3069	1536
35°	2714	2695	2564	2370	2311	1697
45°	2083	2040	1865	1709	1641	1605
55°	1447	1403	1272	1122	1064	1298
65°	860	811	733	748	622	847
75°	345	320	301	286	316	370
85°	49	53	58	63	68	67
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4200.4	4200.4	4200.4	4200.4	4200.4
2.5°	4171.3	4171.3	4171.3	4166.4	4166.4
5°	4127.6	4122.7	4122.7	4117.9	4117.9
7.5°	4093.6	4088.7	4083.9	4079.0	4069.3
10°	4045.0	4045.0	4040.2	4015.9	4011.0
12.5°	3967.3	3962.5	3943.0	3909.0	3899.3
15°	3860.5	3860.5	3821.6	3782.8	3768.2
17.5°	3743.9	3739.1	3690.5	3651.7	3632.3
20°	3617.7	3608.0	3559.4	3496.3	3462.3
22.5°	3476.9	3476.9	3418.6	3336.0	3302.1
25°	3345.8	3326.3	3272.9	3156.4	3069.0
27.5°	3195.2	3166.1	3107.8	2942.7	2840.7
30°	3030.1	3015.5	2933.0	2719.3	2641.6
32.5°	2874.7	2850.4	2763.0	2539.7	2476.5
35°	2714.5	2695.1	2563.9	2369.7	2311.4
37.5°	2554.2	2530.0	2364.9	2209.5	2136.6
40°	2394.0	2364.9	2185.2	2044.4	1966.7
42.5°	2243.5	2204.6	2029.8	1879.3	1791.8
45°	2083.2	2039.5	1864.7	1709.3	1641.3
47.5°	1923.0	1884.1	1723.9	1563.6	1485.9
50°	1753.0	1719.0	1573.3	1413.1	1330.5
52.5°	1612.2	1558.8	1417.9	1257.7	1189.7
55°	1447.1	1403.4	1272.3	1121.7	1063.5
57.5°	1296.5	1252.8	1131.4	990.6	942.1
60°	1155.7	1092.6	990.6	869.2	830.4
62.5°	1000.3	951.8	864.4	762.4	810.9
65°	859.5	810.9	733.2	747.8	621.6
67.5°	704.1	679.8	611.9	543.9	524.4
70°	573.0	543.9	519.6	446.7	427.3
72.5°	456.5	427.3	393.3	354.5	339.9
75°	344.8	320.5	301.1	286.5	315.6
77.5°	237.9	228.2	213.7	199.1	194.2
80°	155.4	150.5	145.7	140.8	136.0
82.5°	92.3	92.3	92.3	92.3	92.3
85°	48.6	53.4	58.3	63.1	68.0
87.5°	29.1	29.1	34.0	38.8	43.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)