

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: P589904

Luminaire Tested: FSR-24-2-LD4-1HI-40-UNV-93-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P589904
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-1HI-40-UNV-93-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2271.0 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

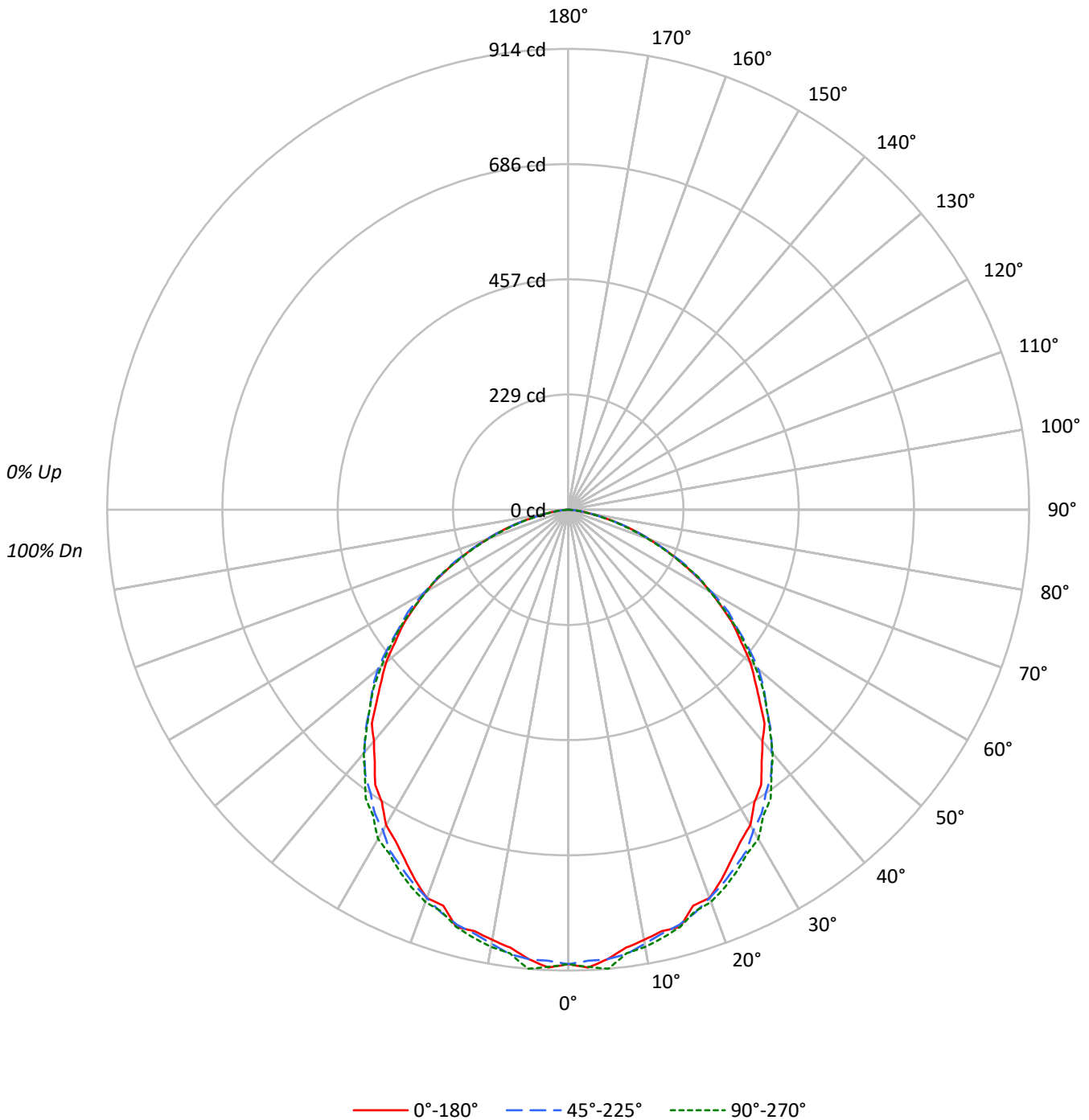
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2425	2425	2425
5°	2417	2418	2469
10°	2368	2388	2405
15°	2386	2374	2387
20°	2346	2346	2371
25°	2274	2324	2349
30°	2243	2282	2343
35°	2190	2247	2298
40°	2105	2206	2216
45°	2041	2114	2117
50°	1974	2063	2024
55°	1881	1917	1904
60°	1759	1777	1744
65°	1568	1608	1557
70°	1345	1350	1312
75°	1066	1064	1022
80°	714	694	666
85°	389	383	358

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2168 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	84.8	3.7
10°-20°	240.2	10.6
20°-30°	359.9	15.8
30°-40°	426.5	18.8
40°-50°	427.3	18.8
50°-60°	362.7	16.0
60°-70°	244.6	10.8
70°-80°	107.5	4.7
80°-90°	17.5	0.8
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°	684.9	30.2
0°-40°	1111.4	48.9
0°-60°	1901.5	83.7
0°-90°	2271.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2271.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	901	901	901	901	901	
5°	895	893	895	892	914	84
15°	857	847	852	856	857	239
25°	766	770	783	793	791	354
35°	667	669	684	700	700	414
45°	536	546	555	570	556	415
55°	401	398	409	406	406	357
65°	246	243	253	243	245	245
75°	102	100	102	95	98	110
85°	13	12	12	12	12	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	901.1	901.1	901.1	901.1	901.1
2.5°	908.9	902.0	895.6	903.1	907.6
5°	894.7	892.6	895.0	892.3	913.9
7.5°	876.3	884.3	889.0	886.1	887.3
10°	866.5	863.7	874.1	881.3	880.3
12.5°	856.1	860.2	860.8	868.6	869.3
15°	856.6	846.7	852.0	856.4	856.7
17.5°	823.4	834.1	837.7	847.8	835.2
20°	819.3	811.5	819.3	829.6	828.0
22.5°	794.3	785.5	802.3	811.5	810.9
25°	765.9	770.1	782.6	792.9	791.2
27.5°	741.0	745.9	763.8	777.9	768.8
30°	721.8	719.3	734.5	747.0	754.0
32.5°	687.5	696.3	714.0	726.4	719.8
35°	666.6	668.6	684.1	699.9	699.5
37.5°	630.2	639.4	661.2	665.6	661.5
40°	599.2	608.4	628.0	632.8	630.8
42.5°	576.2	577.9	594.7	600.2	591.5
45°	536.3	546.3	555.4	569.7	556.2
47.5°	502.4	507.0	526.6	530.4	523.3
50°	471.5	473.2	492.8	488.1	483.4
52.5°	432.8	439.7	450.7	449.8	444.3
55°	400.9	398.2	408.7	405.9	405.8
57.5°	362.6	367.3	375.9	371.5	364.4
60°	326.8	326.9	330.1	325.1	324.1
62.5°	286.9	288.3	289.0	282.8	292.8
65°	246.3	243.0	252.6	242.9	244.6
67.5°	209.0	210.6	209.6	203.6	205.9
70°	171.0	173.1	171.6	164.7	166.8
72.5°	136.4	133.8	135.4	126.8	130.8
75°	102.5	100.4	102.3	95.1	98.3
77.5°	69.8	71.4	70.3	66.4	68.6
80°	46.1	44.8	44.8	42.6	43.0
82.5°	26.9	25.6	25.2	24.5	25.6
85°	12.6	12.2	12.4	12.1	11.6
87.5°	4.5	4.7	4.7	4.4	4.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)