

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: P590722

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-81-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590722
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-LD4-4HI-35-UNV-81-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9116.0 lumens
Efficiency: N/A
Efficacy: 105.5 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

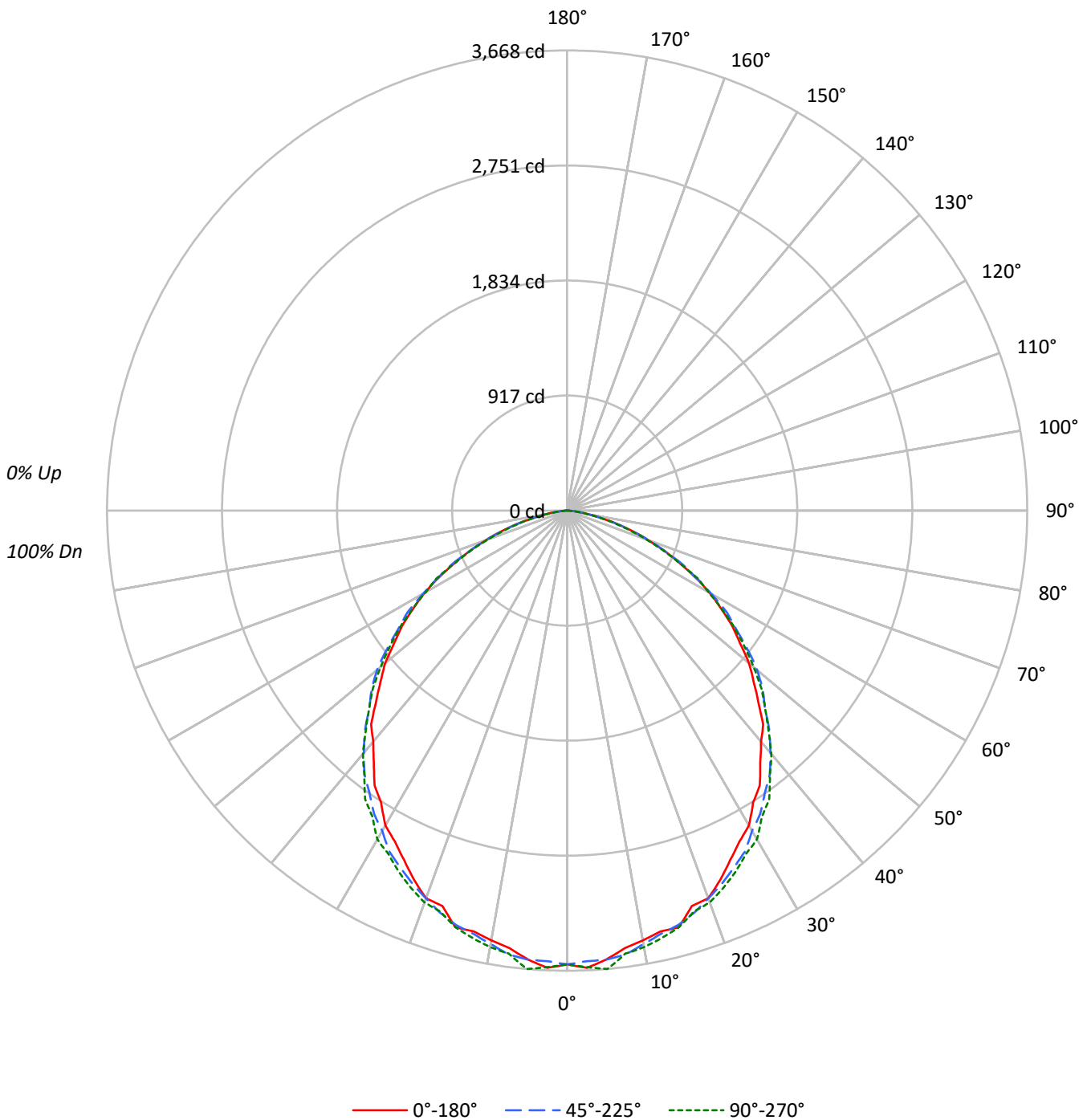
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9733	9733	9733
5°	9701	9705	9909
10°	9504	9587	9655
15°	9580	9528	9581
20°	9418	9418	9518
25°	9128	9328	9430
30°	9003	9161	9405
35°	8791	9021	9224
40°	8449	8855	8895
45°	8193	8485	8497
50°	7924	8282	8123
55°	7550	7697	7642
60°	7060	7131	7002
65°	6295	6456	6251
70°	5401	5419	5269
75°	4277	4268	4103
80°	2865	2786	2678
85°	1556	1544	1442

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8703 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	340.2	3.7
10°-20°	964.3	10.6
20°-30°	1444.7	15.8
30°-40°	1712.2	18.8
40°-50°	1715.4	18.8
50°-60°	1456.1	16.0
60°-70°	981.7	10.8
70°-80°	431.3	4.7
80°-90°	70.1	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°	2749.2	30.2
0°-40°	4461.4	48.9
0°-60°	7632.9	83.7
0°-90°	9116.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9116.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3617	3617	3617	3617	3617	
5°	3591	3583	3593	3582	3668	339
15°	3439	3399	3420	3438	3439	958
25°	3074	3091	3142	3183	3176	1421
35°	2676	2684	2746	2810	2808	1661
45°	2153	2193	2230	2287	2233	1665
55°	1609	1599	1641	1629	1629	1432
65°	989	976	1014	975	982	983
75°	411	403	410	382	395	441
85°	50	49	50	49	47	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3617.0	3617.0	3617.0	3617.0	3617.0
2.5°	3648.3	3620.7	3595.0	3624.9	3643.2
5°	3591.3	3582.9	3592.7	3582.0	3668.4
7.5°	3517.5	3549.7	3568.4	3556.8	3561.9
10°	3478.3	3467.1	3508.7	3537.6	3533.4
12.5°	3436.3	3453.1	3455.4	3486.7	3489.5
15°	3438.6	3398.9	3419.9	3437.7	3439.1
17.5°	3305.0	3348.0	3362.5	3403.1	3352.7
20°	3288.7	3257.4	3288.7	3330.3	3323.7
22.5°	3188.3	3153.3	3220.5	3257.4	3255.1
25°	3074.3	3091.1	3141.6	3182.7	3176.1
27.5°	2974.4	2994.0	3065.9	3122.4	3086.0
30°	2897.3	2887.5	2948.2	2998.7	3026.7
32.5°	2759.6	2795.1	2866.0	2916.0	2889.4
35°	2676.0	2683.9	2746.0	2809.5	2807.7
37.5°	2529.8	2566.7	2654.0	2671.8	2655.4
40°	2405.1	2442.0	2520.9	2540.1	2532.1
42.5°	2313.1	2319.6	2387.4	2409.3	2374.3
45°	2152.9	2193.1	2229.5	2287.0	2232.8
47.5°	2016.6	2035.2	2113.7	2129.1	2100.6
50°	1892.8	1899.3	1978.3	1959.1	1940.4
52.5°	1737.3	1764.8	1809.2	1805.5	1783.5
55°	1609.3	1598.6	1640.6	1629.4	1628.9
57.5°	1455.7	1474.4	1508.9	1491.2	1462.7
60°	1311.8	1312.3	1324.9	1304.8	1301.1
62.5°	1151.6	1157.3	1160.1	1135.3	1175.5
65°	988.7	975.6	1013.9	975.1	981.7
67.5°	838.8	845.3	841.6	817.3	826.6
70°	686.5	694.9	688.8	661.3	669.7
72.5°	547.3	537.1	543.6	509.0	524.9
75°	411.4	403.0	410.5	381.5	394.6
77.5°	280.2	286.7	282.1	266.7	275.5
80°	184.9	179.8	179.8	170.9	172.8
82.5°	107.9	102.7	101.3	98.5	102.7
85°	50.4	49.0	50.0	48.6	46.7
87.5°	18.2	18.7	18.7	17.7	16.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)