

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: P590978

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-81-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590978
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-LD4-4STD-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7633.0 lumens
Efficiency: N/A
Efficacy: 114.6 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

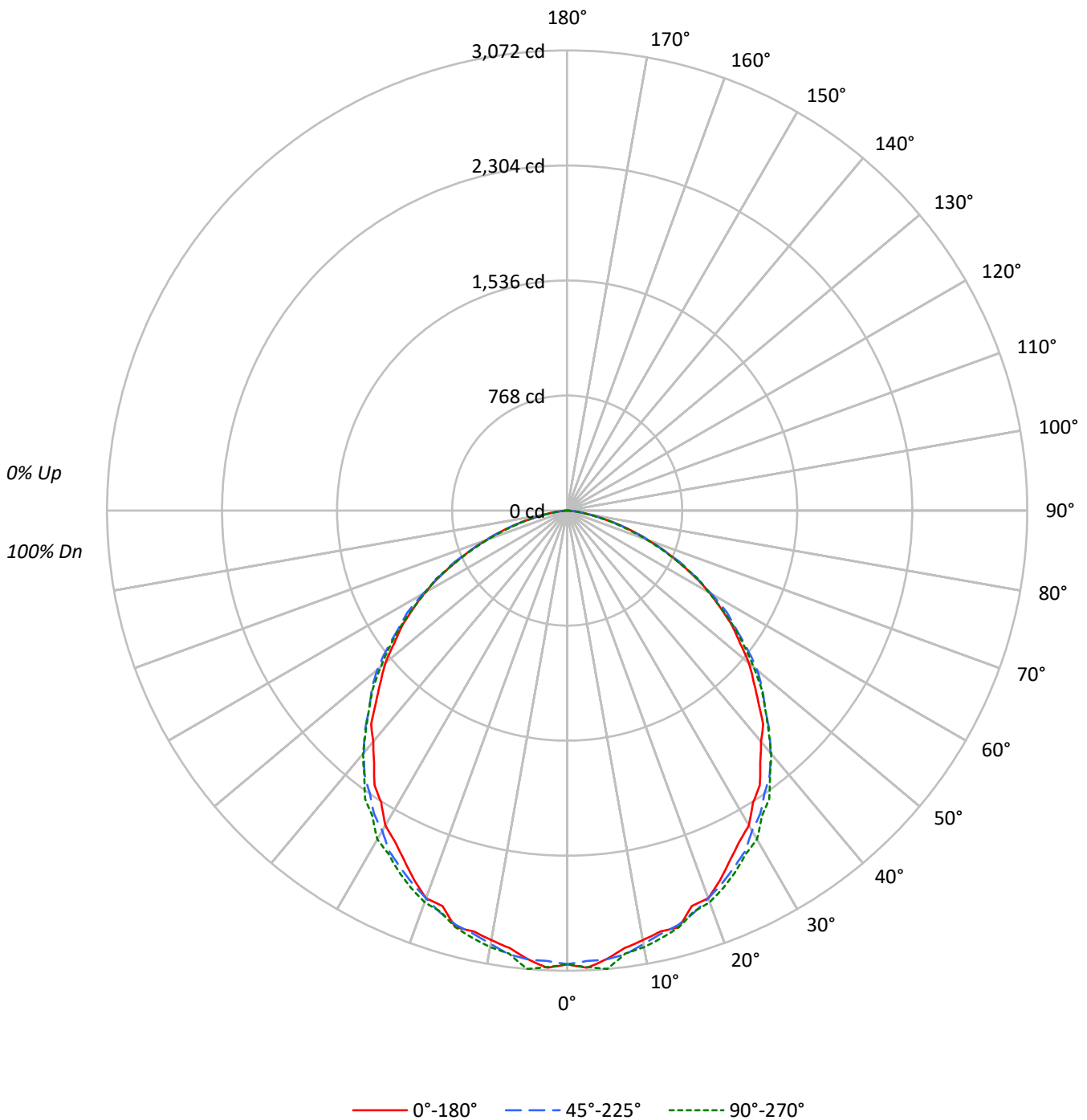
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8150	8150	8150
5°	8123	8126	8297
10°	7958	8028	8084
15°	8021	7978	8022
20°	7886	7886	7970
25°	7643	7810	7896
30°	7538	7671	7875
35°	7361	7553	7723
40°	7074	7415	7448
45°	6860	7104	7115
50°	6635	6934	6802
55°	6322	6445	6399
60°	5912	5971	5863
65°	5271	5405	5234
70°	4522	4538	4412
75°	3582	3573	3435
80°	2400	2332	2242
85°	1303	1291	1207

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7287 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	284.9	3.7
10°-20°	807.4	10.6
20°-30°	1209.6	15.8
30°-40°	1433.7	18.8
40°-50°	1436.3	18.8
50°-60°	1219.2	16.0
60°-70°	822.0	10.8
70°-80°	361.2	4.7
80°-90°	58.7	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°	2301.9	30.2
0°-40°	3735.6	48.9
0°-60°	6391.1	83.7
0°-90°	7633.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7633.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3029	3029	3029	3029	3029	
5°	3007	3000	3008	2999	3072	283
15°	2879	2846	2864	2878	2880	802
25°	2574	2588	2630	2665	2659	1190
35°	2241	2247	2299	2352	2351	1391
45°	1803	1836	1867	1915	1870	1394
55°	1348	1338	1374	1364	1364	1199
65°	828	817	849	816	822	823
75°	344	338	344	320	330	369
85°	42	41	42	41	39	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3028.6	3028.6	3028.6	3028.6	3028.6
2.5°	3054.8	3031.7	3010.2	3035.2	3050.5
5°	3007.1	3000.0	3008.2	2999.3	3071.6
7.5°	2945.3	2972.3	2987.9	2978.1	2982.4
10°	2912.4	2903.1	2937.9	2962.1	2958.6
12.5°	2877.3	2891.3	2893.3	2919.5	2921.8
15°	2879.2	2846.0	2863.6	2878.4	2879.6
17.5°	2767.4	2803.3	2815.5	2849.5	2807.3
20°	2753.7	2727.5	2753.7	2788.5	2783.0
22.5°	2669.6	2640.3	2696.6	2727.5	2725.5
25°	2574.2	2588.3	2630.5	2664.9	2659.4
27.5°	2490.5	2506.9	2567.2	2614.5	2584.0
30°	2426.0	2417.8	2468.6	2510.8	2534.3
32.5°	2310.6	2340.4	2399.8	2441.6	2419.3
35°	2240.6	2247.3	2299.3	2352.5	2350.9
37.5°	2118.2	2149.1	2222.3	2237.1	2223.4
40°	2013.8	2044.7	2110.8	2126.9	2120.2
42.5°	1936.8	1942.3	1999.0	2017.4	1988.0
45°	1802.7	1836.3	1866.8	1914.9	1869.5
47.5°	1688.5	1704.1	1769.8	1782.7	1758.9
50°	1584.9	1590.3	1656.4	1640.4	1624.8
52.5°	1454.7	1477.7	1514.9	1511.7	1493.4
55°	1347.5	1338.5	1373.7	1364.3	1363.9
57.5°	1218.9	1234.5	1263.4	1248.6	1224.7
60°	1098.4	1098.8	1109.4	1092.6	1089.4
62.5°	964.3	969.0	971.3	950.6	984.2
65°	827.8	816.9	848.9	816.5	822.0
67.5°	702.3	707.8	704.6	684.3	692.1
70°	574.8	581.9	576.8	553.7	560.7
72.5°	458.3	449.7	455.2	426.2	439.5
75°	344.5	337.5	343.7	319.5	330.4
77.5°	234.6	240.1	236.2	223.3	230.7
80°	154.9	150.5	150.5	143.1	144.7
82.5°	90.3	86.0	84.9	82.5	86.0
85°	42.2	41.1	41.8	40.7	39.1
87.5°	15.3	15.6	15.6	14.9	14.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)