

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: P590980

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-81-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590980
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-81-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 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: 7278.0 lumens
Efficiency: N/A
Efficacy: 109.3 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

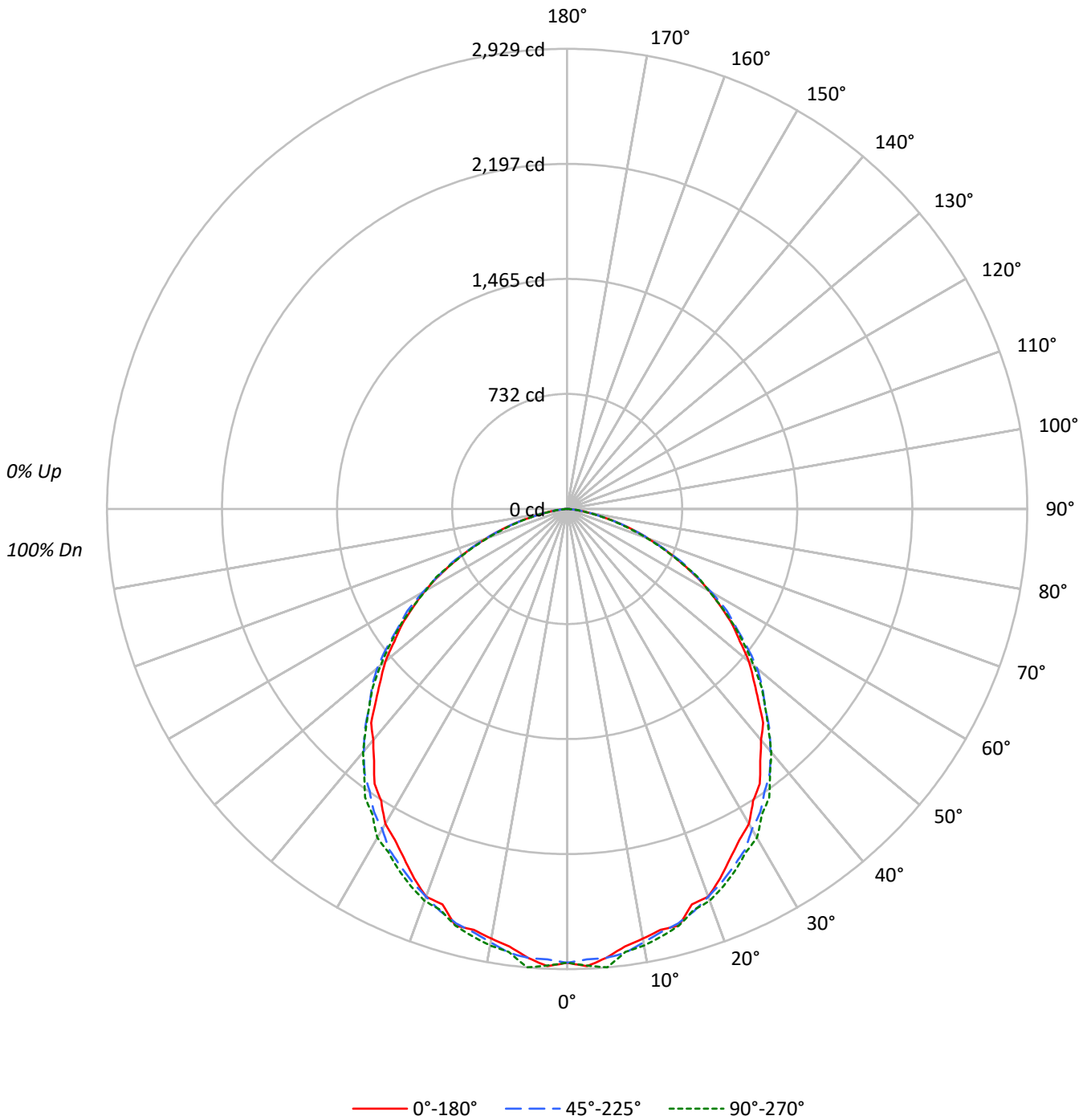
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7771	7771	7771
5°	7745	7748	7911
10°	7588	7654	7708
15°	7648	7607	7649
20°	7519	7519	7599
25°	7288	7447	7529
30°	7188	7314	7508
35°	7018	7202	7364
40°	6745	7070	7102
45°	6541	6774	6784
50°	6327	6612	6486
55°	6028	6145	6101
60°	5637	5693	5591
65°	5026	5154	4990
70°	4312	4327	4207
75°	3415	3407	3276
80°	2287	2224	2139
85°	1244	1232	1152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6948 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.6	3.7
10°-20°	769.8	10.6
20°-30°	1153.4	15.8
30°-40°	1367.0	18.8
40°-50°	1369.5	18.8
50°-60°	1162.5	16.0
60°-70°	783.8	10.8
70°-80°	344.4	4.7
80°-90°	56.0	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°	2194.9	30.2
0°-40°	3561.9	48.9
0°-60°	6093.9	83.7
0°-90°	7278.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7278.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2888	2888	2888	2888	2888	
5°	2867	2860	2868	2860	2929	270
15°	2745	2714	2730	2745	2746	765
25°	2454	2468	2508	2541	2536	1135
35°	2136	2143	2192	2243	2242	1326
45°	1719	1751	1780	1826	1783	1330
55°	1285	1276	1310	1301	1300	1143
65°	789	779	810	778	784	785
75°	328	322	328	305	315	352
85°	40	39	40	39	37	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2887.7	2887.7	2887.7	2887.7	2887.7
2.5°	2912.7	2890.7	2870.2	2894.1	2908.6
5°	2867.2	2860.5	2868.3	2859.8	2928.7
7.5°	2808.3	2834.0	2849.0	2839.6	2843.7
10°	2777.0	2768.0	2801.2	2824.3	2821.0
12.5°	2743.4	2756.9	2758.7	2783.7	2785.9
15°	2745.3	2713.6	2730.4	2744.6	2745.7
17.5°	2638.7	2673.0	2684.5	2717.0	2676.7
20°	2625.6	2600.6	2625.6	2658.8	2653.6
22.5°	2545.4	2517.5	2571.2	2600.6	2598.8
25°	2454.5	2467.9	2508.2	2541.0	2535.8
27.5°	2374.7	2390.3	2447.8	2492.9	2463.8
30°	2313.2	2305.3	2353.8	2394.1	2416.4
32.5°	2203.2	2231.5	2288.2	2328.1	2306.8
35°	2136.4	2142.8	2192.4	2243.1	2241.6
37.5°	2019.7	2049.2	2118.9	2133.1	2120.0
40°	1920.2	1949.6	2012.6	2027.9	2021.6
42.5°	1846.7	1851.9	1906.0	1923.5	1895.6
45°	1718.8	1750.9	1780.0	1825.8	1782.6
47.5°	1610.0	1624.9	1687.5	1699.8	1677.1
50°	1511.2	1516.4	1579.4	1564.1	1549.2
52.5°	1387.0	1409.0	1444.4	1441.4	1423.9
55°	1284.8	1276.3	1309.8	1300.9	1300.5
57.5°	1162.2	1177.1	1204.7	1190.5	1167.8
60°	1047.3	1047.7	1057.8	1041.7	1038.8
62.5°	919.4	923.9	926.2	906.4	938.5
65°	789.3	778.9	809.5	778.5	783.7
67.5°	669.6	674.9	671.9	652.5	659.9
70°	548.1	554.8	550.0	528.0	534.7
72.5°	437.0	428.8	434.0	406.4	419.1
75°	328.5	321.8	327.7	304.6	315.1
77.5°	223.7	228.9	225.2	212.9	220.0
80°	147.6	143.5	143.5	136.5	138.0
82.5°	86.1	82.0	80.9	78.7	82.0
85°	40.3	39.1	39.9	38.8	37.3
87.5°	14.5	14.9	14.9	14.2	13.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)