

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: P590922

Luminaire Tested: FSR-24-2-LD4-4STD-35-UNV-82-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590922
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-35-UNV-82-94-EDD
Description: 2X2 FSR TROFFER WITH .187 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: 7275.0 lumens
Efficiency: N/A
Efficacy: 109.2 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

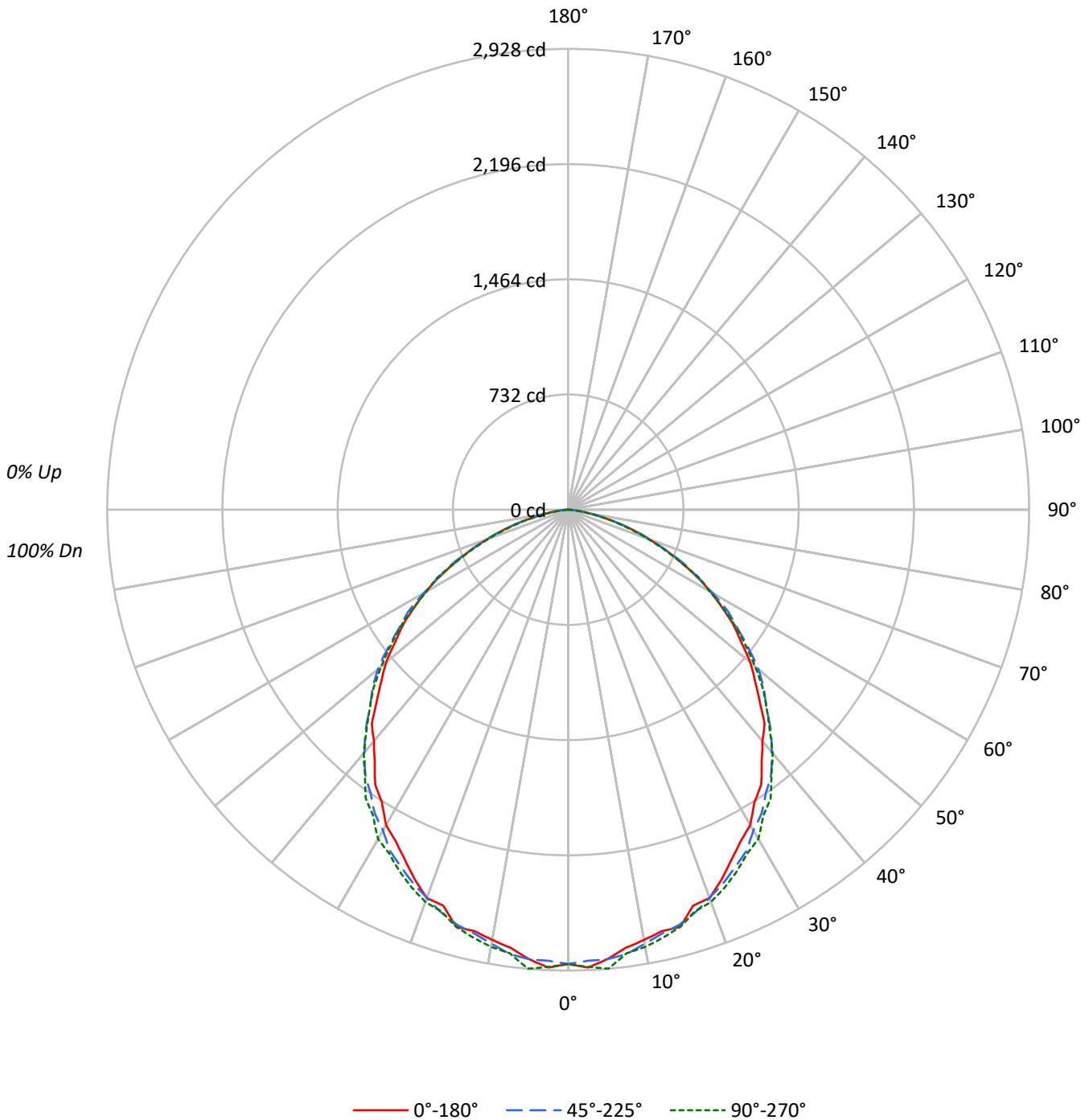
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7768	7768	7768
5°	7742	7745	7908
10°	7585	7651	7705
15°	7645	7604	7646
20°	7516	7516	7596
25°	7285	7444	7526
30°	7185	7311	7505
35°	7016	7199	7361
40°	6743	7067	7099
45°	6538	6771	6781
50°	6324	6609	6483
55°	6025	6143	6099
60°	5634	5690	5588
65°	5024	5152	4988
70°	4311	4325	4205
75°	3413	3406	3274
80°	2287	2224	2137
85°	1244	1232	1152

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6946 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.5	3.7
10°-20°	769.5	10.6
20°-30°	1152.9	15.8
30°-40°	1366.4	18.8
40°-50°	1369.0	18.8
50°-60°	1162.0	16.0
60°-70°	783.4	10.8
70°-80°	344.2	4.7
80°-90°	55.9	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°	2194.0	30.2
0°-40°	3560.4	48.9
0°-60°	6091.4	83.7
0°-90°	7275.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7275.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2886	2886	2886	2886	2886	
5°	2866	2859	2867	2859	2928	270
15°	2744	2712	2729	2743	2744	765
25°	2454	2467	2507	2540	2535	1134
35°	2136	2142	2192	2242	2241	1326
45°	1718	1750	1779	1825	1782	1329
55°	1284	1276	1309	1300	1300	1142
65°	789	779	809	778	783	785
75°	328	322	328	304	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°	2886.5	2886.5	2886.5	2886.5	2886.5
2.5°	2911.5	2889.5	2869.0	2892.9	2907.4
5°	2866.0	2859.3	2867.2	2858.6	2927.5
7.5°	2807.2	2832.9	2847.8	2838.5	2842.6
10°	2775.8	2766.9	2800.1	2823.2	2819.8
12.5°	2742.3	2755.7	2757.6	2782.6	2784.8
15°	2744.2	2712.5	2729.3	2743.4	2744.5
17.5°	2637.6	2671.9	2683.4	2715.8	2675.6
20°	2624.5	2599.6	2624.5	2657.7	2652.5
22.5°	2544.4	2516.4	2570.1	2599.6	2597.7
25°	2453.5	2466.9	2507.1	2539.9	2534.7
27.5°	2373.7	2389.4	2446.8	2491.9	2462.8
30°	2312.2	2304.4	2352.8	2393.1	2415.4
32.5°	2202.3	2230.6	2287.2	2327.1	2305.9
35°	2135.6	2141.9	2191.5	2242.1	2240.7
37.5°	2018.9	2048.3	2118.0	2132.2	2119.2
40°	1919.4	1948.8	2011.8	2027.1	2020.8
42.5°	1846.0	1851.2	1905.2	1922.7	1894.8
45°	1718.1	1750.2	1779.3	1825.1	1781.9
47.5°	1609.3	1624.2	1686.8	1699.1	1676.4
50°	1510.5	1515.8	1578.7	1563.5	1548.6
52.5°	1386.4	1408.4	1443.8	1440.8	1423.3
55°	1284.3	1275.7	1309.3	1300.3	1300.0
57.5°	1161.7	1176.6	1204.2	1190.0	1167.3
60°	1046.9	1047.3	1057.3	1041.3	1038.3
62.5°	919.1	923.5	925.8	906.0	938.1
65°	789.0	778.6	809.1	778.2	783.4
67.5°	669.4	674.6	671.6	652.2	659.7
70°	547.9	554.6	549.7	527.7	534.4
72.5°	436.8	428.6	433.8	406.2	418.9
75°	328.3	321.6	327.6	304.5	314.9
77.5°	223.6	228.8	225.1	212.8	219.9
80°	147.6	143.5	143.5	136.4	137.9
82.5°	86.1	82.0	80.9	78.6	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)