

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: P589902

Luminaire Tested: FSR-24-2-LD4-1HI-40-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P589902
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-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2374.0 lumens
Efficiency: N/A
Efficacy: 109.9 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

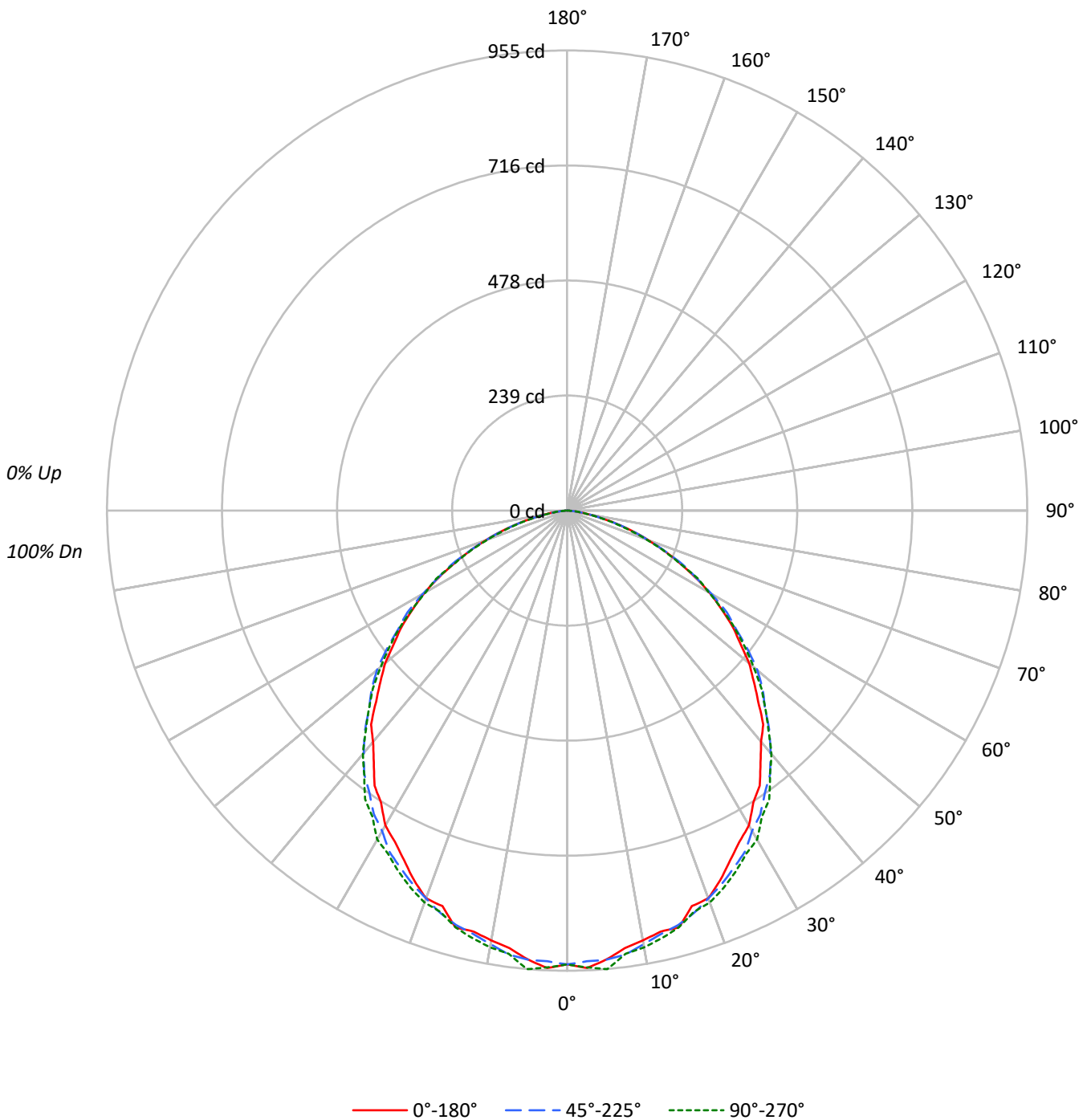
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2535	2535	2535
5°	2526	2527	2581
10°	2475	2497	2514
15°	2495	2481	2495
20°	2452	2452	2479
25°	2377	2429	2456
30°	2344	2386	2449
35°	2289	2349	2402
40°	2200	2306	2316
45°	2134	2210	2213
50°	2063	2157	2115
55°	1966	2004	1990
60°	1838	1857	1823
65°	1640	1681	1628
70°	1407	1412	1372
75°	1114	1111	1069
80°	747	725	697
85°	404	401	377

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2267 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.6	3.7
10°-20°	251.1	10.6
20°-30°	376.2	15.8
30°-40°	445.9	18.8
40°-50°	446.7	18.8
50°-60°	379.2	16.0
60°-70°	255.7	10.8
70°-80°	112.3	4.7
80°-90°	18.3	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°	715.9	30.2
0°-40°	1161.8	48.9
0°-60°	1987.7	83.7
0°-90°	2374.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2374.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	942	942	942	942	942	
5°	935	933	936	933	955	88
15°	896	885	891	895	896	249
25°	801	805	818	829	827	370
35°	697	699	715	732	731	433
45°	561	571	581	596	582	434
55°	419	416	427	424	424	373
65°	258	254	264	254	256	256
75°	107	105	107	99	103	115
85°	13	13	13	13	12	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	941.9	941.9	941.9	941.9	941.9
2.5°	950.1	942.9	936.2	944.0	948.8
5°	935.3	933.1	935.6	932.8	955.3
7.5°	916.0	924.4	929.3	926.3	927.6
10°	905.8	902.9	913.7	921.3	920.2
12.5°	894.9	899.3	899.9	908.0	908.7
15°	895.5	885.1	890.6	895.2	895.6
17.5°	860.7	871.9	875.7	886.2	873.1
20°	856.4	848.3	856.4	867.3	865.6
22.5°	830.3	821.2	838.7	848.3	847.7
25°	800.6	805.0	818.1	828.8	827.1
27.5°	774.6	779.7	798.4	813.1	803.7
30°	754.5	752.0	767.8	780.9	788.2
32.5°	718.6	727.9	746.4	759.4	752.5
35°	696.9	698.9	715.1	731.7	731.2
37.5°	658.8	668.4	691.2	695.8	691.5
40°	626.3	635.9	656.5	661.5	659.4
42.5°	602.4	604.1	621.7	627.4	618.3
45°	560.7	571.1	580.6	595.6	581.5
47.5°	525.2	530.0	550.4	554.5	547.0
50°	492.9	494.6	515.2	510.2	505.3
52.5°	452.4	459.6	471.2	470.2	464.5
55°	419.1	416.3	427.2	424.3	424.2
57.5°	379.1	384.0	393.0	388.3	380.9
60°	341.6	341.8	345.0	339.8	338.8
62.5°	299.9	301.4	302.1	295.7	306.1
65°	257.5	254.1	264.0	253.9	255.6
67.5°	218.4	220.1	219.2	212.8	215.3
70°	178.8	181.0	179.4	172.2	174.4
72.5°	142.5	139.9	141.6	132.6	136.7
75°	107.1	105.0	106.9	99.4	102.8
77.5°	73.0	74.7	73.5	69.4	71.8
80°	48.2	46.8	46.8	44.5	45.0
82.5°	28.1	26.8	26.4	25.7	26.8
85°	13.1	12.8	13.0	12.6	12.2
87.5°	4.7	4.9	4.9	4.6	4.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)