

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: P589903

Luminaire Tested: FSR-24-2-LD4-1HI-40-UNV-93-86-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P589903
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-93-86-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2347.0 lumens
Efficiency: N/A
Efficacy: 108.7 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

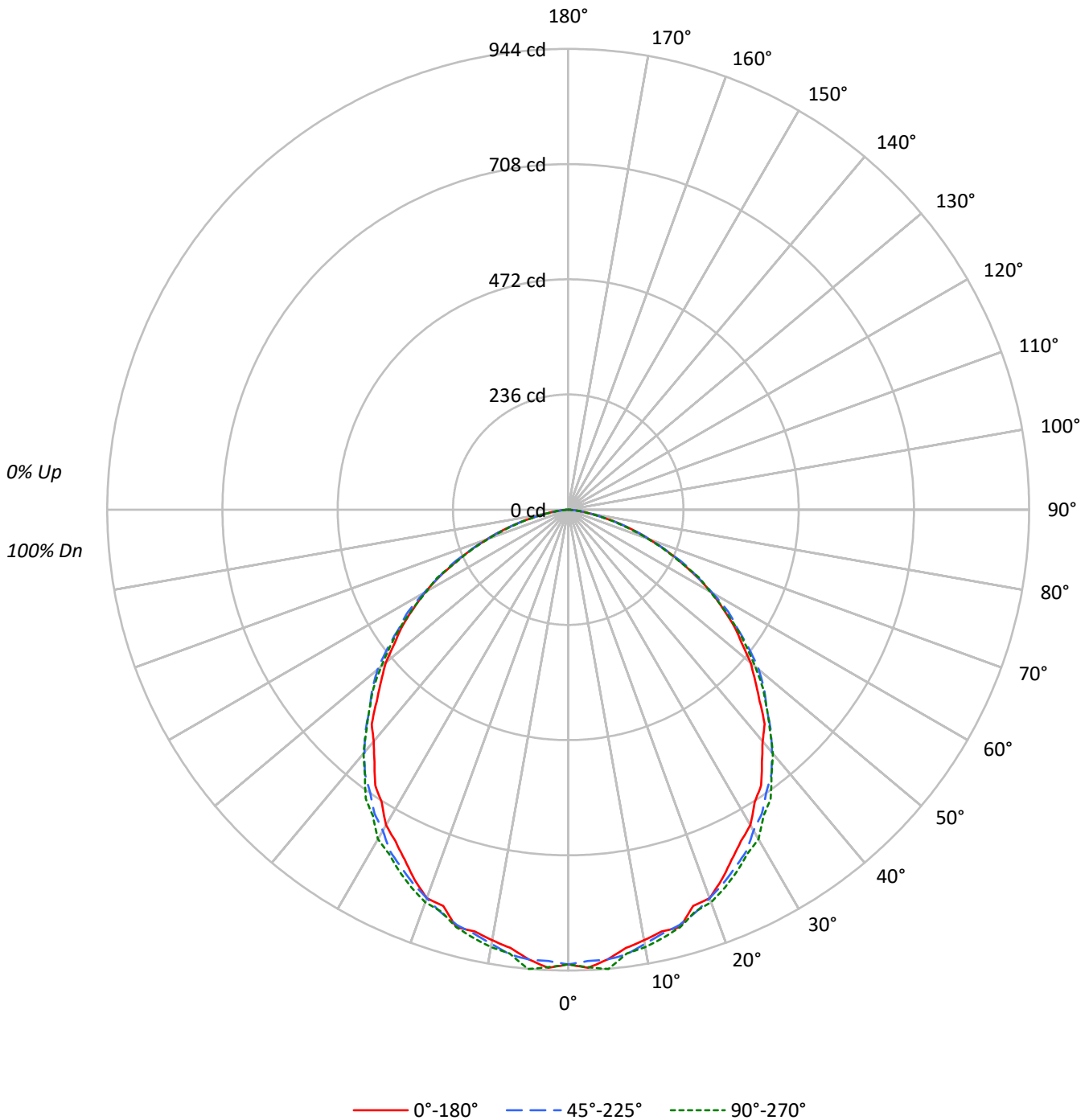
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2506	2506	2506
5°	2498	2499	2551
10°	2447	2468	2486
15°	2466	2453	2467
20°	2425	2425	2450
25°	2350	2401	2428
30°	2318	2359	2421
35°	2263	2323	2375
40°	2175	2280	2290
45°	2109	2184	2187
50°	2040	2132	2092
55°	1944	1982	1968
60°	1817	1836	1803
65°	1621	1662	1609
70°	1390	1395	1356
75°	1101	1099	1056
80°	738	717	690
85°	401	398	371

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2241 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.6	3.7
10°-20°	248.3	10.6
20°-30°	371.9	15.8
30°-40°	440.8	18.8
40°-50°	441.6	18.8
50°-60°	374.9	16.0
60°-70°	252.7	10.8
70°-80°	111.1	4.7
80°-90°	18.1	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°	707.8	30.2
0°-40°	1148.6	48.9
0°-60°	1965.1	83.7
0°-90°	2347.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2347.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	931	931	931	931	931	
5°	925	922	925	922	944	87
15°	885	875	880	885	885	247
25°	792	796	809	819	818	366
35°	689	691	707	723	723	428
45°	554	565	574	589	575	429
55°	414	412	422	420	419	369
65°	254	251	261	251	253	253
75°	106	104	106	98	102	113
85°	13	13	13	12	12	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	931.2	931.2	931.2	931.2	931.2
2.5°	939.3	932.2	925.6	933.3	938.0
5°	924.6	922.5	925.0	922.2	944.5
7.5°	905.6	913.9	918.7	915.7	917.0
10°	895.5	892.6	903.3	910.8	909.7
12.5°	884.7	889.0	889.6	897.7	898.4
15°	885.3	875.1	880.5	885.1	885.4
17.5°	850.9	862.0	865.7	876.2	863.2
20°	846.7	838.6	846.7	857.4	855.7
22.5°	820.9	811.8	829.1	838.6	838.0
25°	791.5	795.8	808.8	819.4	817.7
27.5°	765.8	770.8	789.4	803.9	794.5
30°	745.9	743.4	759.1	772.0	779.3
32.5°	710.5	719.6	737.9	750.8	743.9
35°	689.0	691.0	707.0	723.3	722.9
37.5°	651.3	660.8	683.3	687.9	683.7
40°	619.2	628.7	649.0	654.0	651.9
42.5°	595.5	597.2	614.6	620.3	611.3
45°	554.3	564.6	574.0	588.8	574.8
47.5°	519.2	524.0	544.2	548.2	540.8
50°	487.3	489.0	509.3	504.4	499.6
52.5°	447.3	454.4	465.8	464.8	459.2
55°	414.3	411.6	422.4	419.5	419.4
57.5°	374.8	379.6	388.5	383.9	376.6
60°	337.7	337.9	341.1	335.9	335.0
62.5°	296.5	297.9	298.7	292.3	302.6
65°	254.5	251.2	261.0	251.1	252.7
67.5°	215.9	217.6	216.7	210.4	212.8
70°	176.7	178.9	177.3	170.3	172.4
72.5°	140.9	138.3	140.0	131.1	135.1
75°	105.9	103.8	105.7	98.2	101.6
77.5°	72.1	73.8	72.6	68.7	70.9
80°	47.6	46.3	46.3	44.0	44.5
82.5°	27.8	26.5	26.1	25.4	26.5
85°	13.0	12.6	12.9	12.5	12.0
87.5°	4.7	4.8	4.8	4.6	4.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)