

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: P589900

Luminaire Tested: FSR-24-2-LD4-1HI-40-UNV-82-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P589900
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-82-97-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2195.0 lumens
Efficiency: N/A
Efficacy: 101.6 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

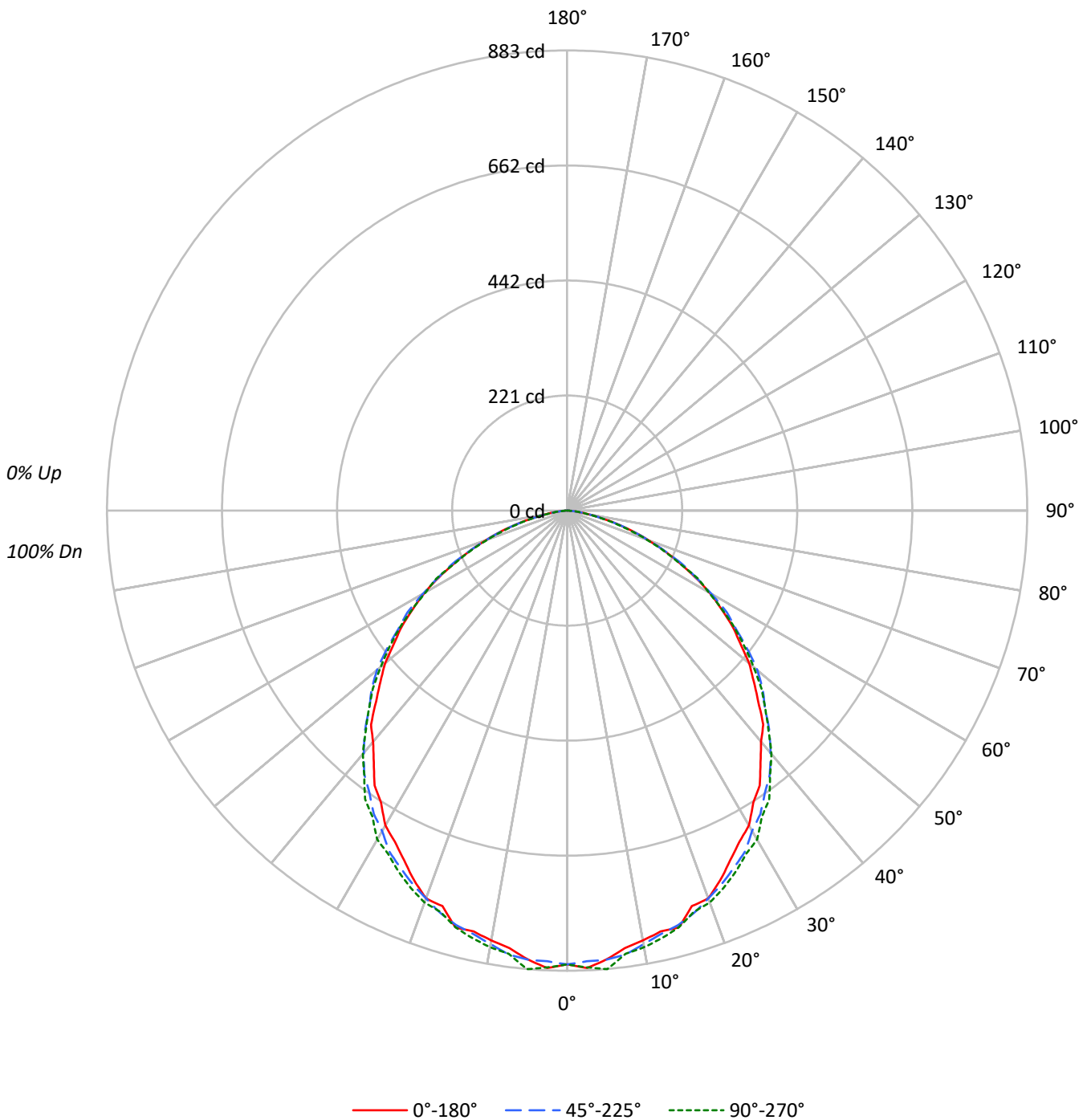
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2344	2344	2344
5°	2336	2337	2386
10°	2288	2308	2325
15°	2307	2294	2307
20°	2268	2268	2292
25°	2198	2246	2271
30°	2168	2206	2265
35°	2117	2172	2221
40°	2034	2132	2142
45°	1973	2043	2046
50°	1908	1994	1956
55°	1818	1853	1840
60°	1700	1717	1686
65°	1516	1554	1505
70°	1301	1305	1269
75°	1030	1027	988
80°	690	671	645
85°	374	371	346

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2096 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	81.9	3.7
10°-20°	232.2	10.6
20°-30°	347.9	15.8
30°-40°	412.3	18.8
40°-50°	413.0	18.8
50°-60°	350.6	16.0
60°-70°	236.4	10.8
70°-80°	103.9	4.7
80°-90°	16.9	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°	662.0	30.2
0°-40°	1074.2	48.9
0°-60°	1837.9	83.7
0°-90°	2195.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2195.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	871	871	871	871	871	
5°	865	863	865	862	883	82
15°	828	818	824	828	828	231
25°	740	744	756	766	765	342
35°	644	646	661	676	676	400
45°	518	528	537	551	538	401
55°	388	385	395	392	392	345
65°	238	235	244	235	236	237
75°	99	97	99	92	95	106
85°	12	12	12	12	11	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	870.9	870.9	870.9	870.9	870.9
2.5°	878.5	871.8	865.6	872.8	877.2
5°	864.7	862.7	865.1	862.5	883.3
7.5°	847.0	854.7	859.2	856.4	857.7
10°	837.5	834.8	844.8	851.8	850.8
12.5°	827.4	831.5	832.0	839.5	840.2
15°	828.0	818.4	823.5	827.7	828.1
17.5°	795.8	806.1	809.6	819.4	807.3
20°	791.9	784.3	791.9	801.9	800.3
22.5°	767.7	759.3	775.5	784.3	783.8
25°	740.3	744.3	756.4	766.3	764.8
27.5°	716.2	720.9	738.2	751.8	743.1
30°	697.6	695.3	709.9	722.0	728.8
32.5°	664.5	673.0	690.1	702.1	695.7
35°	644.3	646.2	661.2	676.5	676.0
37.5°	609.1	618.0	639.0	643.3	639.4
40°	579.1	588.0	607.0	611.6	609.7
42.5°	557.0	558.5	574.8	580.1	571.7
45°	518.4	528.1	536.8	550.7	537.6
47.5°	485.6	490.1	508.9	512.7	505.8
50°	455.8	457.3	476.3	471.7	467.2
52.5°	418.3	424.9	435.6	434.7	429.4
55°	387.5	384.9	395.0	392.3	392.2
57.5°	350.5	355.0	363.3	359.1	352.2
60°	315.9	316.0	319.0	314.2	313.3
62.5°	277.3	278.6	279.3	273.4	283.0
65°	238.1	234.9	244.1	234.8	236.4
67.5°	202.0	203.5	202.6	196.8	199.0
70°	165.3	167.3	165.9	159.2	161.3
72.5°	131.8	129.3	130.9	122.6	126.4
75°	99.1	97.0	98.8	91.9	95.0
77.5°	67.5	69.0	67.9	64.2	66.3
80°	44.5	43.3	43.3	41.2	41.6
82.5°	26.0	24.7	24.4	23.7	24.7
85°	12.1	11.8	12.0	11.7	11.2
87.5°	4.4	4.5	4.5	4.3	4.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)