

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: P561763

Luminaire Tested: FSR-12-4-LD4-2STD-35-UNV-93-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561763
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-2STD-35-UNV-93-85-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6524.0 lumens
Efficiency: N/A
Efficacy: 98.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

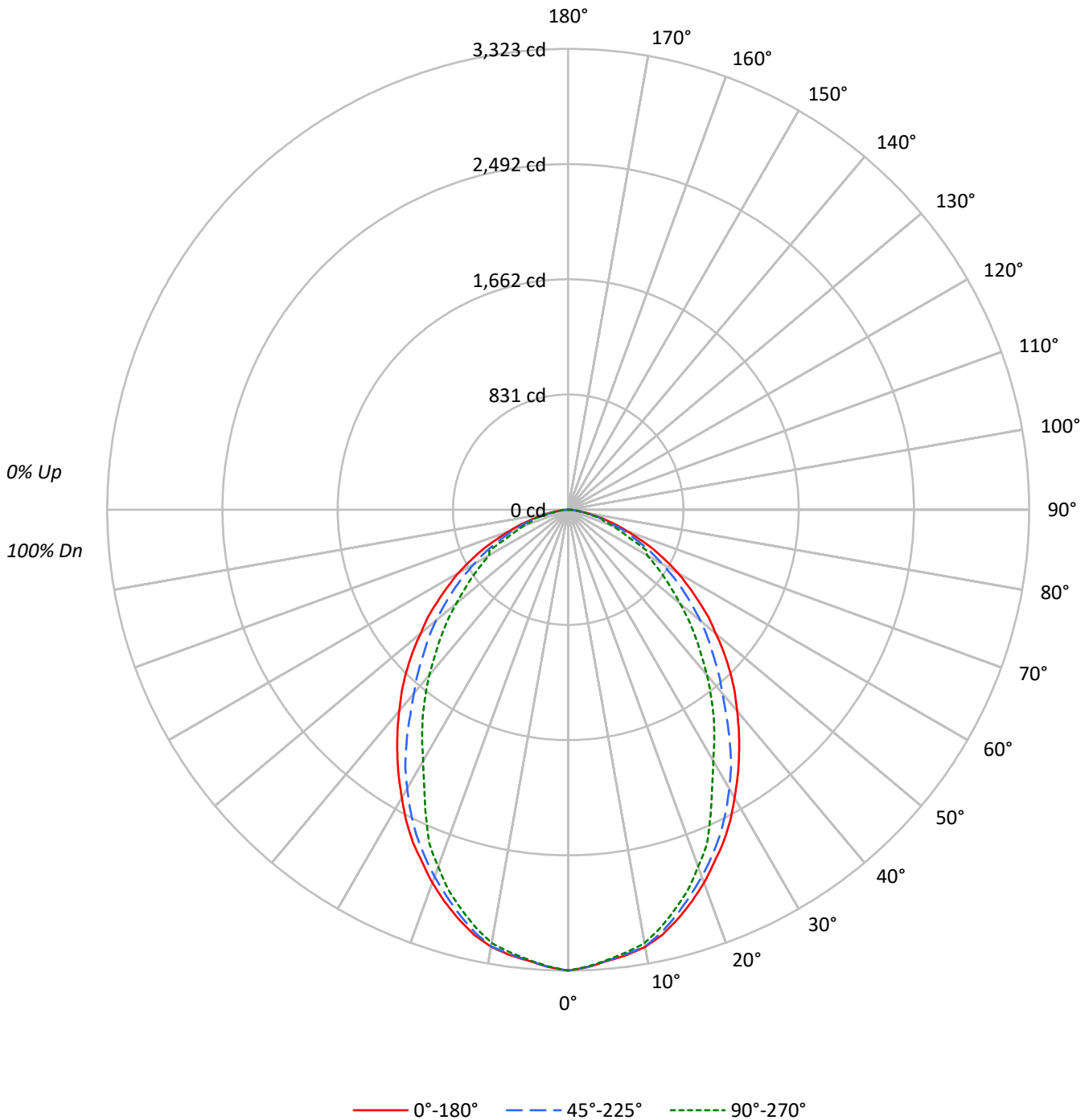
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89				87	
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77				75	
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67				65	
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58				56	
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52				50	
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46				44	
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42				40	
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38				36	
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34				33	
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32				30	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8943	8943	8943
5°	8821	8811	8800
10°	8745	8734	8671
15°	8509	8423	8306
20°	8196	8064	7844
25°	7860	7688	7209
30°	7449	7210	6494
35°	7055	6664	6007
40°	6654	6073	5466
45°	6272	5614	4942
50°	5806	5211	4407
55°	5371	4723	3947
60°	4921	4218	3536
65°	4330	3694	3131
70°	3567	3234	2660
75°	2836	2477	2596
80°	1905	1787	1667
85°	1186	1423	1661

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6272 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.3	4.7
10°-20°	849.0	13.0
20°-30°	1175.4	18.0
30°-40°	1253.3	19.2
40°-50°	1143.4	17.5
50°-60°	895.7	13.7
60°-70°	583.8	8.9
70°-80°	258.7	4.0
80°-90°	55.5	0.9
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°	2333.7	35.8
0°-40°	3587.0	55.0
0°-60°	5626.0	86.2
0°-90°	6524.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6524.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3323	3323	3323	3323	3323	
5°	3266	3262	3262	3258	3258	310
15°	3054	3054	3024	2993	2981	859
25°	2647	2632	2589	2497	2428	1215
35°	2148	2132	2028	1875	1829	1343
45°	1648	1614	1475	1352	1299	1270
55°	1145	1110	1007	888	841	1027
65°	680	642	580	592	492	670
75°	273	254	238	227	250	292
85°	38	42	46	50	54	53
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3323.2	3323.2	3323.2	3323.2	3323.2
2.5°	3300.2	3300.2	3300.2	3296.3	3296.3
5°	3265.6	3261.8	3261.8	3257.9	3257.9
7.5°	3238.7	3234.9	3231.0	3227.2	3219.5
10°	3200.3	3200.3	3196.5	3177.2	3173.4
12.5°	3138.8	3135.0	3119.6	3092.7	3085.0
15°	3054.3	3054.3	3023.6	2992.8	2981.3
17.5°	2962.1	2958.3	2919.8	2889.1	2873.7
20°	2862.2	2854.5	2816.1	2766.2	2739.3
22.5°	2750.8	2750.8	2704.7	2639.4	2612.5
25°	2647.1	2631.7	2589.4	2497.2	2428.1
27.5°	2528.0	2504.9	2458.8	2328.2	2247.5
30°	2397.3	2385.8	2320.5	2151.5	2090.0
32.5°	2274.4	2255.2	2186.0	2009.3	1959.4
35°	2147.6	2132.3	2028.5	1874.8	1828.7
37.5°	2020.8	2001.6	1871.0	1748.1	1690.4
40°	1894.1	1871.0	1728.9	1617.4	1556.0
42.5°	1775.0	1744.2	1605.9	1486.8	1417.7
45°	1648.2	1613.6	1475.3	1352.3	1298.6
47.5°	1521.4	1490.7	1363.9	1237.1	1175.6
50°	1386.9	1360.0	1244.8	1118.0	1052.7
52.5°	1275.5	1233.2	1121.8	995.1	941.3
55°	1144.9	1110.3	1006.6	887.5	841.4
57.5°	1025.8	991.2	895.2	783.7	745.3
60°	914.4	864.4	783.7	687.7	657.0
62.5°	791.4	753.0	683.9	603.2	641.6
65°	680.0	641.6	580.1	591.7	491.8
67.5°	557.1	537.9	484.1	430.3	414.9
70°	453.3	430.3	411.1	353.5	338.1
72.5°	361.1	338.1	311.2	280.5	268.9
75°	272.8	253.6	238.2	226.7	249.7
77.5°	188.3	180.6	169.0	157.5	153.7
80°	122.9	119.1	115.3	111.4	107.6
82.5°	73.0	73.0	73.0	73.0	73.0
85°	38.4	42.3	46.1	49.9	53.8
87.5°	23.1	23.1	26.9	30.7	34.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)