

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: P561895

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561895
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-50-UNV-93-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6410.0 lumens
Efficiency: N/A
Efficacy: 96.2 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

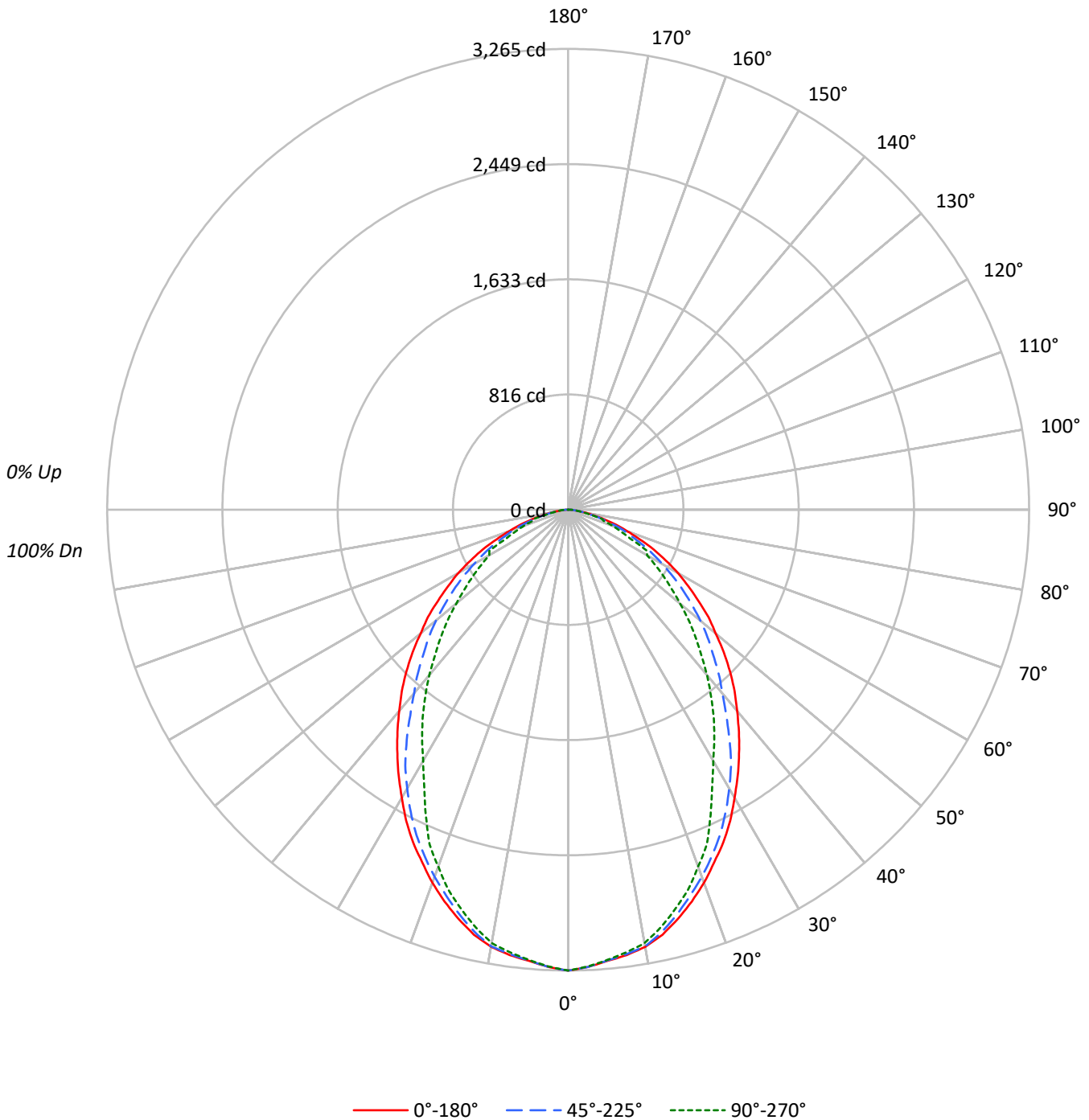
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8787	8787	8787
5°	8667	8657	8647
10°	8592	8582	8520
15°	8360	8276	8160
20°	8053	7924	7707
25°	7722	7554	7083
30°	7319	7085	6381
35°	6932	6547	5903
40°	6537	5967	5370
45°	6163	5516	4856
50°	5705	5120	4330
55°	5278	4640	3879
60°	4835	4145	3474
65°	4254	3629	3077
70°	3504	3178	2614
75°	2786	2433	2551
80°	1872	1754	1638
85°	1164	1399	1630

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6163 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	303.9	4.7
10°-20°	834.1	13.0
20°-30°	1154.8	18.0
30°-40°	1231.4	19.2
40°-50°	1123.4	17.5
50°-60°	880.1	13.7
60°-70°	573.6	8.9
70°-80°	254.1	4.0
80°-90°	54.5	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°	2292.9	35.8
0°-40°	3524.3	55.0
0°-60°	5527.7	86.2
0°-90°	6410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6410.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3265	3265	3265	3265	3265	
5°	3208	3205	3205	3201	3201	305
15°	3001	3001	2971	2940	2929	844
25°	2601	2586	2544	2454	2386	1194
35°	2110	2095	1993	1842	1797	1319
45°	1619	1585	1450	1329	1276	1247
55°	1125	1091	989	872	827	1009
65°	668	630	570	581	483	658
75°	268	249	234	223	245	287
85°	38	42	45	49	53	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3265.2	3265.2	3265.2	3265.2	3265.2
2.5°	3242.5	3242.5	3242.5	3238.7	3238.7
5°	3208.5	3204.8	3204.8	3201.0	3201.0
7.5°	3182.1	3178.3	3174.6	3170.8	3163.2
10°	3144.4	3144.4	3140.6	3121.7	3118.0
12.5°	3084.0	3080.2	3065.1	3038.7	3031.1
15°	3000.9	3000.9	2970.7	2940.5	2929.2
17.5°	2910.3	2906.6	2868.8	2838.6	2823.5
20°	2812.2	2804.6	2766.9	2717.8	2691.4
22.5°	2702.7	2702.7	2657.4	2593.3	2566.8
25°	2600.8	2585.7	2544.2	2453.6	2385.6
27.5°	2483.8	2461.1	2415.8	2287.5	2208.2
30°	2355.5	2344.1	2280.0	2113.9	2053.5
32.5°	2234.7	2215.8	2147.8	1974.2	1925.1
35°	2110.1	2095.0	1993.1	1842.1	1796.8
37.5°	1985.5	1966.7	1838.3	1717.5	1660.9
40°	1861.0	1838.3	1698.6	1589.2	1528.8
42.5°	1743.9	1713.7	1577.9	1460.8	1392.9
45°	1619.4	1585.4	1449.5	1328.7	1275.9
47.5°	1494.8	1464.6	1340.0	1215.5	1155.1
50°	1362.7	1336.3	1223.0	1098.5	1034.3
52.5°	1253.2	1211.7	1102.2	977.7	924.8
55°	1124.9	1090.9	989.0	872.0	826.7
57.5°	1007.9	973.9	879.5	770.1	732.3
60°	898.4	849.3	770.1	675.7	645.5
62.5°	777.6	739.9	671.9	592.6	630.4
65°	668.1	630.4	570.0	581.3	483.2
67.5°	547.3	528.5	475.6	422.8	407.7
70°	445.4	422.8	403.9	347.3	332.2
72.5°	354.8	332.2	305.8	275.6	264.2
75°	268.0	249.1	234.0	222.7	245.4
77.5°	185.0	177.4	166.1	154.8	151.0
80°	120.8	117.0	113.2	109.5	105.7
82.5°	71.7	71.7	71.7	71.7	71.7
85°	37.7	41.5	45.3	49.1	52.8
87.5°	22.6	22.6	26.4	30.2	34.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)