

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: P561882

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561882
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-82-94-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5533.0 lumens
Efficiency: N/A
Efficacy: 83.1 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

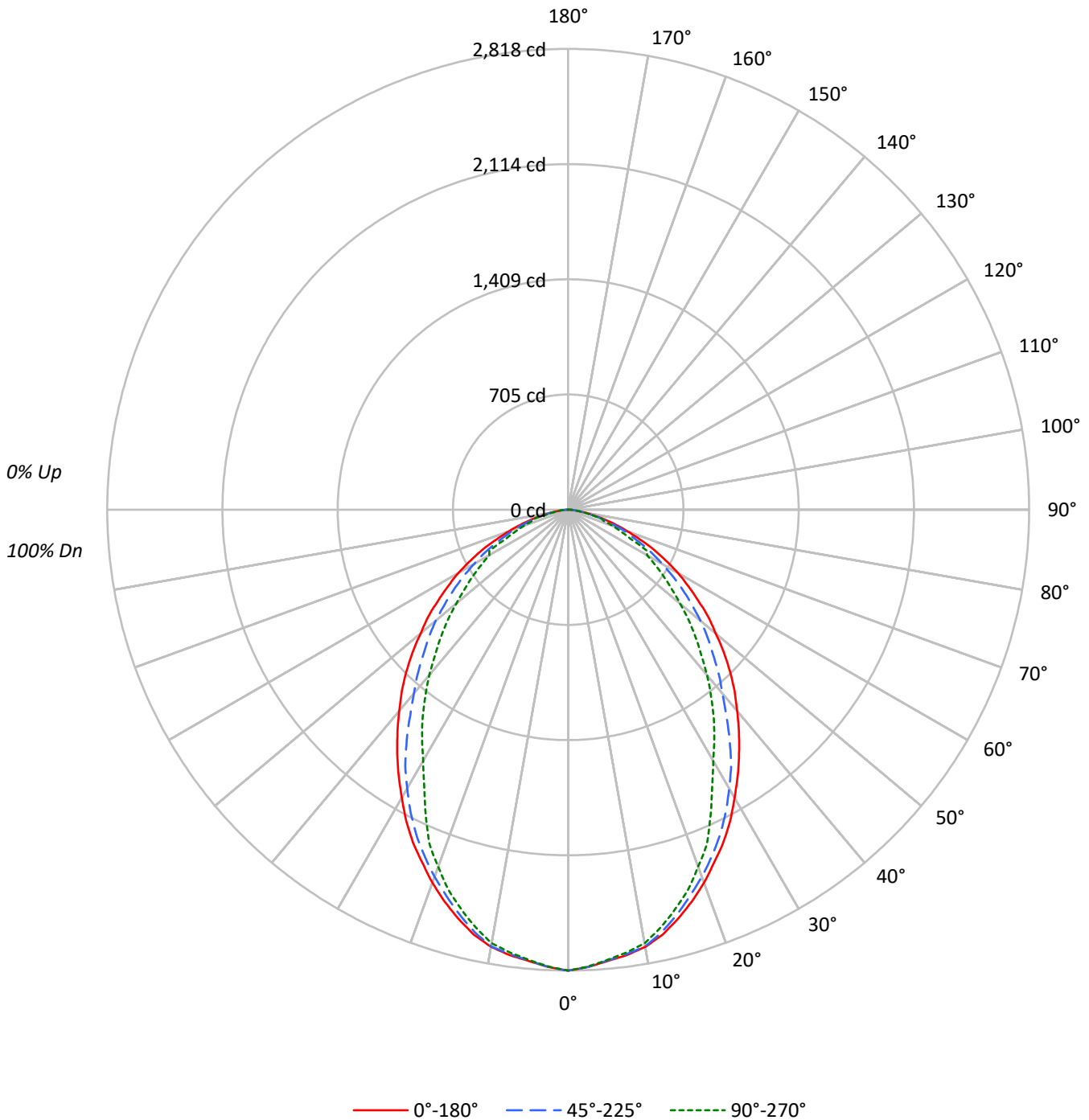
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7584	7584	7584
5°	7481	7472	7464
10°	7417	7408	7354
15°	7217	7144	7044
20°	6951	6839	6653
25°	6666	6521	6114
30°	6318	6115	5508
35°	5983	5652	5095
40°	5643	5151	4636
45°	5319	4762	4191
50°	4924	4420	3738
55°	4556	4005	3348
60°	4174	3577	2999
65°	3672	3133	2656
70°	3025	2743	2256
75°	2405	2100	2202
80°	1616	1514	1413
85°	1007	1207	1408

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5319 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	262.4	4.7
10°-20°	720.0	13.0
20°-30°	996.8	18.0
30°-40°	1062.9	19.2
40°-50°	969.7	17.5
50°-60°	759.7	13.7
60°-70°	495.1	8.9
70°-80°	219.3	4.0
80°-90°	47.1	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°	1979.2	35.8
0°-40°	3042.1	55.0
0°-60°	4771.4	86.2
0°-90°	5533.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5533.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2818	2818	2818	2818	2818	
5°	2770	2766	2766	2763	2763	263
15°	2590	2590	2564	2538	2528	728
25°	2245	2232	2196	2118	2059	1031
35°	1821	1808	1720	1590	1551	1139
45°	1398	1368	1251	1147	1101	1077
55°	971	942	854	753	714	871
65°	577	544	492	502	417	568
75°	231	215	202	192	212	248
85°	33	36	39	42	46	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2818.4	2818.4	2818.4	2818.4	2818.4
2.5°	2798.9	2798.9	2798.9	2795.6	2795.6
5°	2769.6	2766.3	2766.3	2763.0	2763.0
7.5°	2746.8	2743.5	2740.2	2737.0	2730.5
10°	2714.2	2714.2	2710.9	2694.6	2691.4
12.5°	2662.0	2658.8	2645.7	2622.9	2616.4
15°	2590.4	2590.4	2564.3	2538.2	2528.4
17.5°	2512.2	2508.9	2476.3	2450.2	2437.2
20°	2427.4	2420.9	2388.3	2346.0	2323.2
22.5°	2332.9	2332.9	2293.8	2238.5	2215.6
25°	2245.0	2231.9	2196.1	2117.9	2059.3
27.5°	2144.0	2124.4	2085.3	1974.5	1906.1
30°	2033.2	2023.4	1968.0	1824.7	1772.5
32.5°	1928.9	1912.6	1854.0	1704.1	1661.7
35°	1821.4	1808.4	1720.4	1590.1	1551.0
37.5°	1713.9	1697.6	1586.8	1482.5	1433.7
40°	1606.3	1586.8	1466.2	1371.7	1319.6
42.5°	1505.3	1479.3	1362.0	1261.0	1202.3
45°	1397.8	1368.5	1251.2	1146.9	1101.3
47.5°	1290.3	1264.2	1156.7	1049.2	997.0
50°	1176.2	1153.4	1055.7	948.2	892.8
52.5°	1081.8	1045.9	951.4	843.9	798.3
55°	971.0	941.7	853.7	752.7	713.6
57.5°	870.0	840.6	759.2	664.7	632.1
60°	775.5	733.1	664.7	583.2	557.2
62.5°	671.2	638.6	580.0	511.6	544.1
65°	576.7	544.1	492.0	501.8	417.1
67.5°	472.5	456.2	410.5	364.9	351.9
70°	384.5	364.9	348.6	299.8	286.7
72.5°	306.3	286.7	263.9	237.9	228.1
75°	231.3	215.0	202.0	192.2	211.8
77.5°	159.7	153.1	143.4	133.6	130.3
80°	104.3	101.0	97.7	94.5	91.2
82.5°	61.9	61.9	61.9	61.9	61.9
85°	32.6	35.8	39.1	42.4	45.6
87.5°	19.5	19.5	22.8	26.1	29.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)