

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: P561120

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561120
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-LD4-1LO-50-UNV-93-84-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2221.0 lumens
Efficiency: N/A
Efficacy: 94.9 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

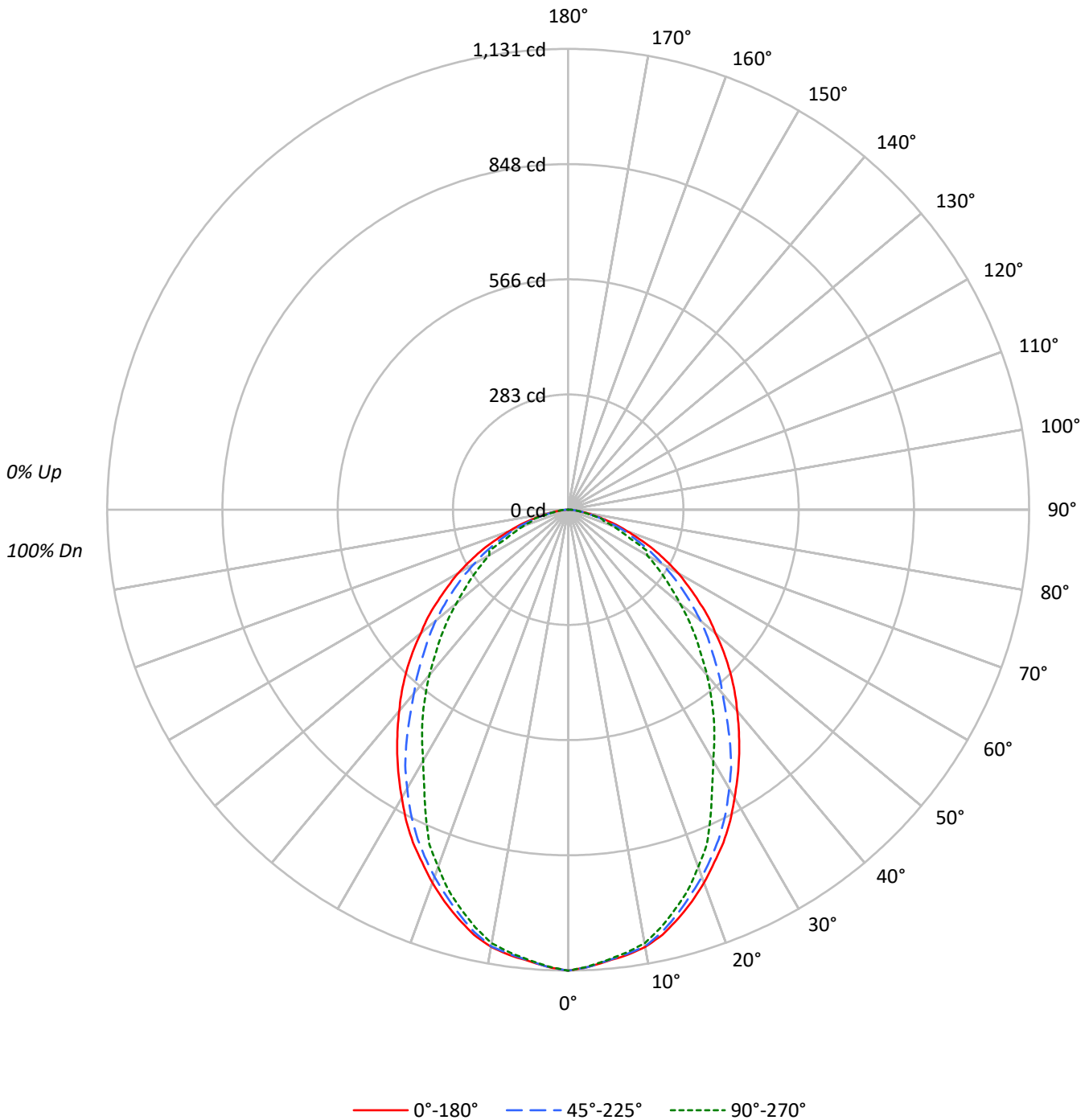
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3044	3044	3044
5°	3003	2999	2996
10°	2977	2973	2952
15°	2897	2868	2827
20°	2790	2745	2670
25°	2676	2617	2454
30°	2536	2455	2211
35°	2402	2269	2045
40°	2265	2068	1861
45°	2135	1911	1682
50°	1977	1774	1500
55°	1829	1608	1344
60°	1675	1436	1204
65°	1474	1258	1066
70°	1214	1101	906
75°	966	843	884
80°	649	607	567
85°	404	485	565

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2135 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.3	4.7
10°-20°	289.0	13.0
20°-30°	400.1	18.0
30°-40°	426.7	19.2
40°-50°	389.2	17.5
50°-60°	304.9	13.7
60°-70°	198.7	8.9
70°-80°	88.0	4.0
80°-90°	18.9	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°	794.5	35.8
0°-40°	1221.1	55.0
0°-60°	1915.3	86.2
0°-90°	2221.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2221.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1131	1131	1131	1131	1131	
5°	1112	1110	1110	1109	1109	106
15°	1040	1040	1029	1019	1015	292
25°	901	896	882	850	827	414
35°	731	726	691	638	623	457
45°	561	549	502	460	442	432
55°	390	378	343	302	286	350
65°	232	218	198	201	167	228
75°	93	86	81	77	85	100
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1131.3	1131.3	1131.3	1131.3	1131.3
2.5°	1123.5	1123.5	1123.5	1122.2	1122.2
5°	1111.7	1110.4	1110.4	1109.1	1109.1
7.5°	1102.6	1101.3	1100.0	1098.6	1096.0
10°	1089.5	1089.5	1088.2	1081.6	1080.3
12.5°	1068.6	1067.3	1062.0	1052.9	1050.3
15°	1039.8	1039.8	1029.3	1018.9	1014.9
17.5°	1008.4	1007.1	994.0	983.6	978.3
20°	974.4	971.8	958.7	941.7	932.5
22.5°	936.5	936.5	920.8	898.5	889.4
25°	901.2	895.9	881.5	850.1	826.6
27.5°	860.6	852.8	837.1	792.6	765.1
30°	816.1	812.2	790.0	732.4	711.5
32.5°	774.3	767.7	744.2	684.0	667.0
35°	731.1	725.9	690.6	638.3	622.6
37.5°	688.0	681.4	637.0	595.1	575.5
40°	644.8	637.0	588.6	550.6	529.7
42.5°	604.3	593.8	546.7	506.2	482.6
45°	561.1	549.3	502.2	460.4	442.1
47.5°	517.9	507.5	464.3	421.1	400.2
50°	472.2	463.0	423.8	380.6	358.4
52.5°	434.2	419.8	381.9	338.8	320.4
55°	389.8	378.0	342.7	302.1	286.4
57.5°	349.2	337.4	304.7	266.8	253.7
60°	311.3	294.3	266.8	234.1	223.7
62.5°	269.4	256.4	232.8	205.3	218.4
65°	231.5	218.4	197.5	201.4	167.4
67.5°	189.6	183.1	164.8	146.5	141.3
70°	154.3	146.5	139.9	120.3	115.1
72.5°	122.9	115.1	105.9	95.5	91.6
75°	92.9	86.3	81.1	77.2	85.0
77.5°	64.1	61.5	57.5	53.6	52.3
80°	41.9	40.5	39.2	37.9	36.6
82.5°	24.9	24.9	24.9	24.9	24.9
85°	13.1	14.4	15.7	17.0	18.3
87.5°	7.8	7.8	9.2	10.5	11.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)