

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: P561099

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561099
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-81-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2426.0 lumens
Efficiency: N/A
Efficacy: 103.7 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

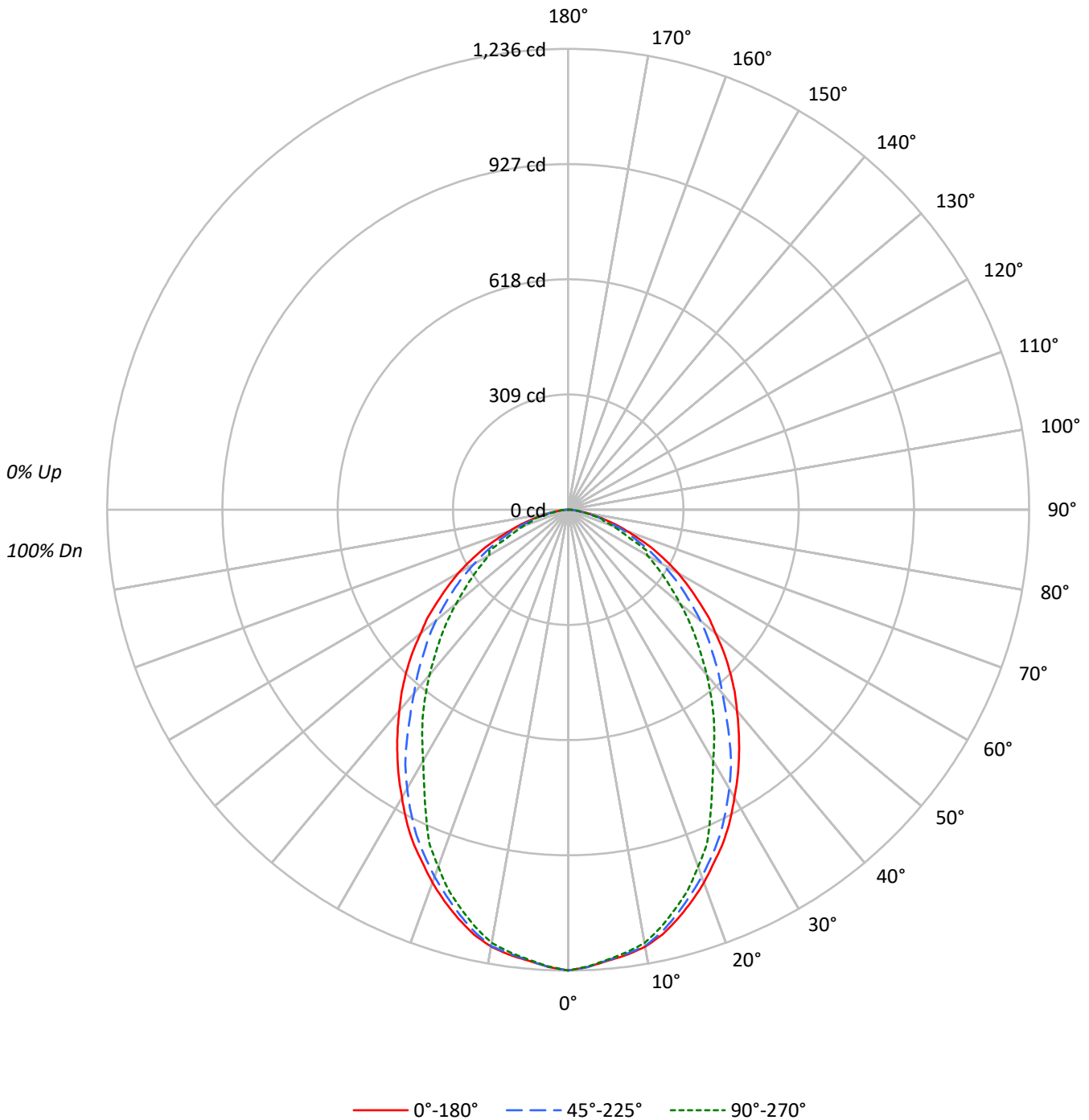
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	3326	3326	3326
5°	3280	3276	3273
10°	3252	3248	3225
15°	3164	3132	3088
20°	3048	2999	2917
25°	2923	2859	2681
30°	2770	2681	2415
35°	2623	2478	2234
40°	2474	2258	2033
45°	2332	2088	1838
50°	2159	1938	1639
55°	1997	1756	1468
60°	1830	1568	1315
65°	1610	1373	1165
70°	1327	1203	989
75°	1054	921	966
80°	708	665	620
85°	442	528	618

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2332 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.0	4.7
10°-20°	315.7	13.0
20°-30°	437.1	18.0
30°-40°	466.0	19.2
40°-50°	425.2	17.5
50°-60°	333.1	13.7
60°-70°	217.1	8.9
70°-80°	96.2	4.0
80°-90°	20.6	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°	867.8	35.8
0°-40°	1333.8	55.0
0°-60°	2092.1	86.2
0°-90°	2426.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2426.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1214	1213	1213	1212	1212	115
15°	1136	1136	1124	1113	1109	319
25°	984	979	963	929	903	452
35°	799	793	754	697	680	499
45°	613	600	549	503	483	472
55°	426	413	374	330	313	382
65°	253	239	216	220	183	249
75°	101	94	89	84	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1235.8	1235.8	1235.8	1235.8	1235.8
2.5°	1227.2	1227.2	1227.2	1225.8	1225.8
5°	1214.3	1212.9	1212.9	1211.5	1211.5
7.5°	1204.3	1202.9	1201.5	1200.1	1197.2
10°	1190.1	1190.1	1188.6	1181.5	1180.1
12.5°	1167.2	1165.8	1160.1	1150.1	1147.2
15°	1135.8	1135.8	1124.3	1112.9	1108.6
17.5°	1101.5	1100.1	1085.8	1074.3	1068.6
20°	1064.3	1061.5	1047.2	1028.6	1018.6
22.5°	1022.9	1022.9	1005.8	981.5	971.5
25°	984.3	978.6	962.9	928.6	902.9
27.5°	940.0	931.5	914.3	865.8	835.8
30°	891.5	887.2	862.9	800.0	777.2
32.5°	845.8	838.6	812.9	747.2	728.6
35°	798.6	792.9	754.3	697.2	680.0
37.5°	751.5	744.3	695.7	650.0	628.6
40°	704.3	695.7	642.9	601.5	578.6
42.5°	660.0	648.6	597.2	552.9	527.2
45°	612.9	600.0	548.6	502.9	482.9
47.5°	565.7	554.3	507.2	460.0	437.2
50°	515.7	505.7	462.9	415.7	391.4
52.5°	474.3	458.6	417.2	370.0	350.0
55°	425.7	412.9	374.3	330.0	312.9
57.5°	381.4	368.6	332.9	291.4	277.2
60°	340.0	321.4	291.4	255.7	244.3
62.5°	294.3	280.0	254.3	224.3	238.6
65°	252.9	238.6	215.7	220.0	182.9
67.5°	207.2	200.0	180.0	160.0	154.3
70°	168.6	160.0	152.9	131.4	125.7
72.5°	134.3	125.7	115.7	104.3	100.0
75°	101.4	94.3	88.6	84.3	92.9
77.5°	70.0	67.1	62.9	58.6	57.1
80°	45.7	44.3	42.9	41.4	40.0
82.5°	27.1	27.1	27.1	27.1	27.1
85°	14.3	15.7	17.1	18.6	20.0
87.5°	8.6	8.6	10.0	11.4	12.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)