

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: P561069

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-93-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561069
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-40-UNV-93-96-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2488.0 lumens
Efficiency: N/A
Efficacy: 106.3 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

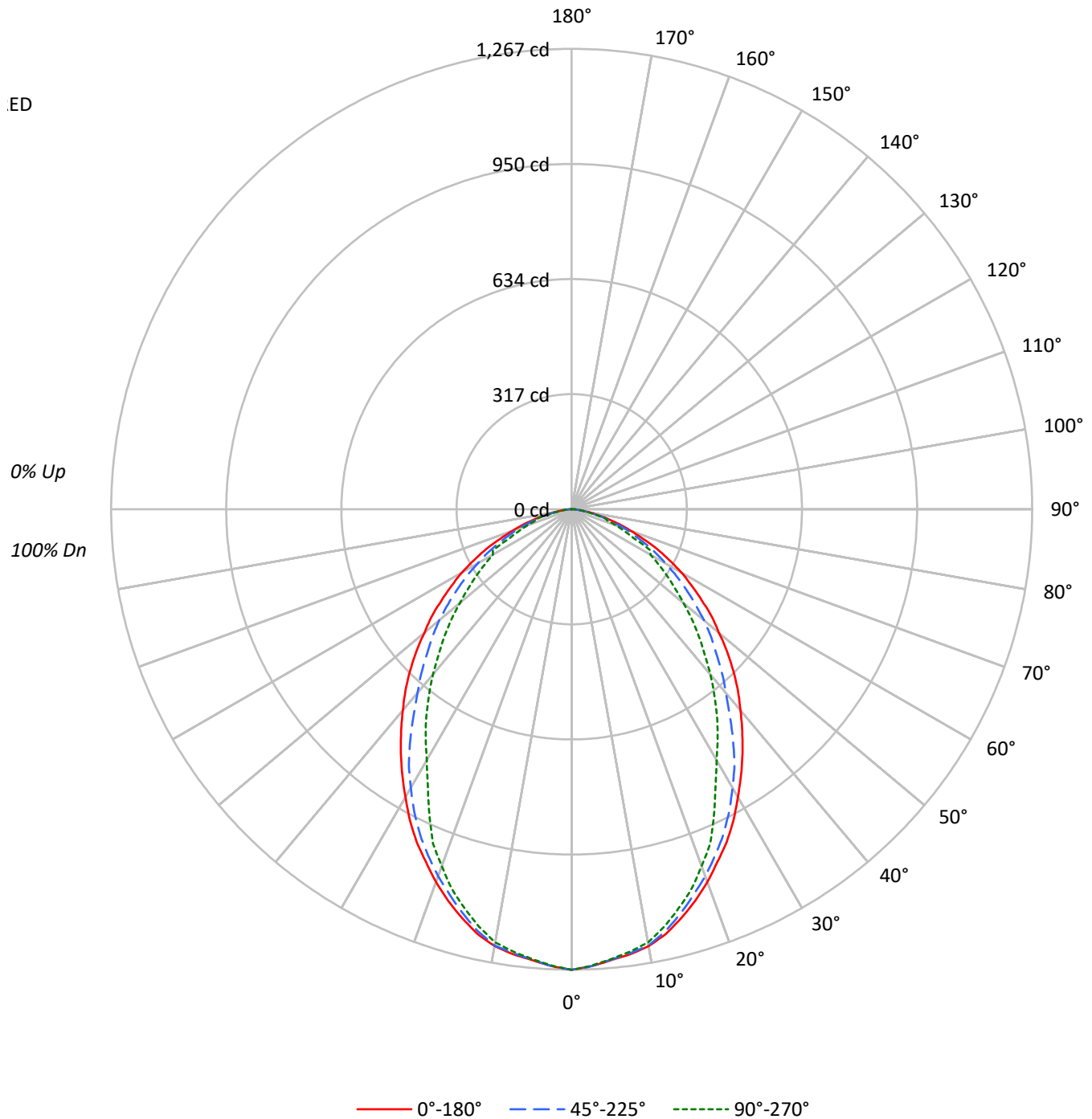
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3411	3411	3411
5°	3364	3360	3356
10°	3335	3331	3307
15°	3245	3212	3168
20°	3126	3076	2992
25°	2997	2932	2749
30°	2841	2750	2476
35°	2690	2541	2291
40°	2537	2316	2085
45°	2392	2141	1885
50°	2214	1987	1681
55°	2048	1801	1506
60°	1877	1609	1348
65°	1651	1408	1194
70°	1360	1234	1014
75°	1081	944	990
80°	727	682	635
85°	454	543	633

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2392 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.0	4.7
10°-20°	323.8	13.0
20°-30°	448.2	18.0
30°-40°	477.9	19.2
40°-50°	436.0	17.5
50°-60°	341.6	13.7
60°-70°	222.6	8.9
70°-80°	98.6	4.0
80°-90°	21.2	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°	890.0	35.8
0°-40°	1367.9	55.0
0°-60°	2145.6	86.2
0°-90°	2488.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2488.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1267	1267	1267	1267	1267	
5°	1245	1244	1244	1242	1242	118
15°	1165	1165	1153	1141	1137	327
25°	1010	1004	988	952	926	463
35°	819	813	774	715	697	512
45°	628	615	563	516	495	484
55°	437	423	384	338	321	392
65°	259	245	221	226	188	256
75°	104	97	91	86	95	111
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1267.4	1267.4	1267.4	1267.4	1267.4
2.5°	1258.6	1258.6	1258.6	1257.1	1257.1
5°	1245.4	1243.9	1243.9	1242.4	1242.4
7.5°	1235.1	1233.7	1232.2	1230.7	1227.8
10°	1220.5	1220.5	1219.0	1211.7	1210.2
12.5°	1197.0	1195.6	1189.7	1179.4	1176.5
15°	1164.8	1164.8	1153.1	1141.4	1137.0
17.5°	1129.6	1128.2	1113.5	1101.8	1095.9
20°	1091.5	1088.6	1074.0	1054.9	1044.7
22.5°	1049.0	1049.0	1031.5	1006.6	996.3
25°	1009.5	1003.6	987.5	952.3	926.0
27.5°	964.1	955.3	937.7	887.9	857.1
30°	914.3	909.9	885.0	820.5	797.0
32.5°	867.4	860.0	833.7	766.3	747.2
35°	819.0	813.2	773.6	715.0	697.4
37.5°	770.7	763.3	713.5	666.6	644.7
40°	722.3	713.5	659.3	616.8	593.4
42.5°	676.9	665.2	612.4	567.0	540.6
45°	628.5	615.4	562.6	515.7	495.2
47.5°	580.2	568.5	520.1	471.8	448.3
50°	528.9	518.7	474.7	426.4	401.5
52.5°	486.4	470.3	427.8	379.5	359.0
55°	436.6	423.4	383.9	338.4	320.9
57.5°	391.2	378.0	341.4	298.9	284.2
60°	348.7	329.7	298.9	262.3	250.5
62.5°	301.8	287.2	260.8	230.0	244.7
65°	259.3	244.7	221.2	225.6	187.5
67.5°	212.4	205.1	184.6	164.1	158.2
70°	172.9	164.1	156.8	134.8	128.9
72.5°	137.7	128.9	118.7	107.0	102.6
75°	104.0	96.7	90.8	86.4	95.2
77.5°	71.8	68.9	64.5	60.1	58.6
80°	46.9	45.4	44.0	42.5	41.0
82.5°	27.8	27.8	27.8	27.8	27.8
85°	14.7	16.1	17.6	19.0	20.5
87.5°	8.8	8.8	10.3	11.7	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)