

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: P561130

Luminaire Tested: FSR-12-4-LD4-1LO-50-UNV-93-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561130
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-93-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2226.0 lumens
Efficiency: N/A
Efficacy: 95.1 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

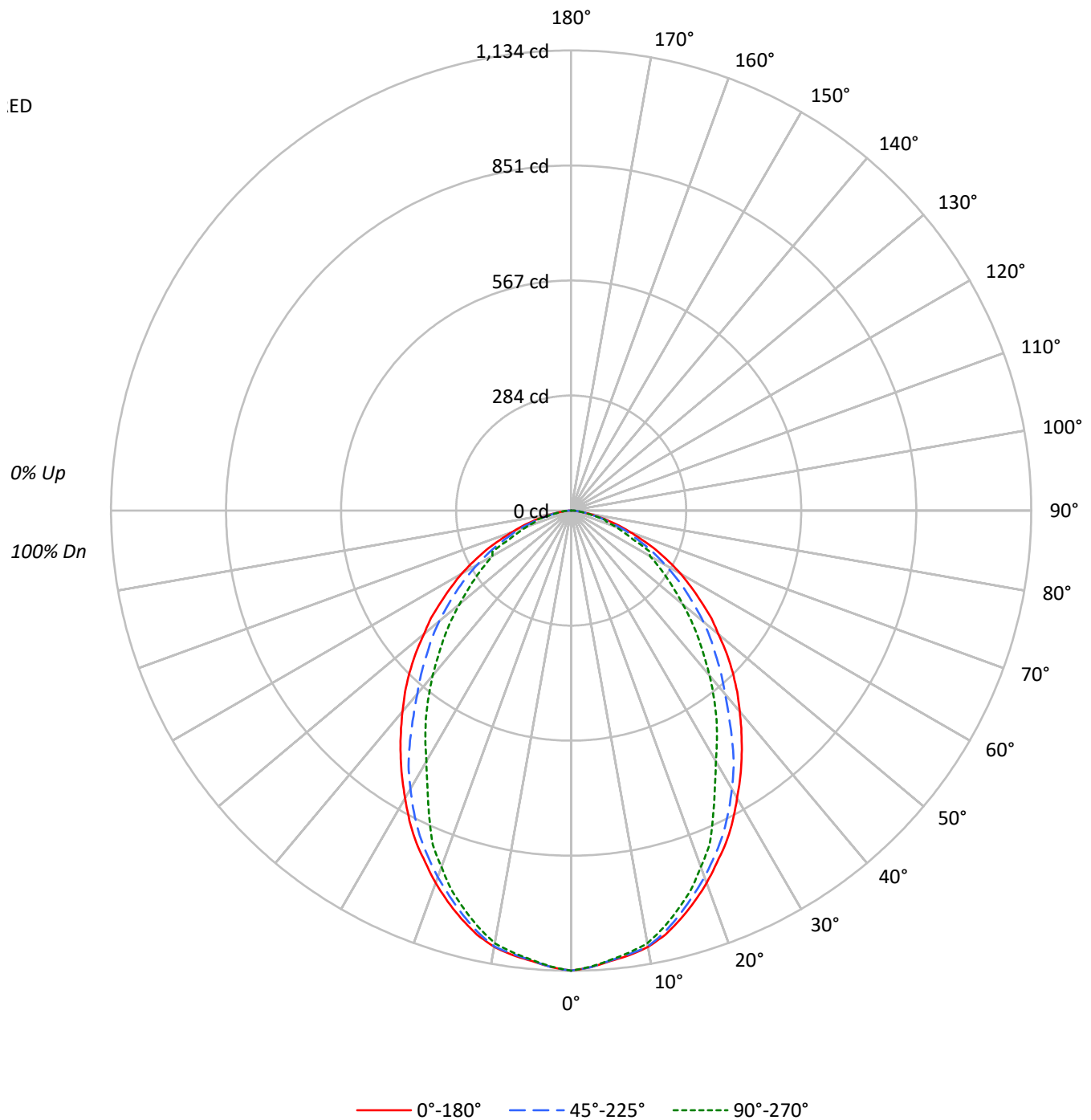
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3051	3051	3051
5°	3010	3006	3003
10°	2984	2980	2959
15°	2903	2874	2834
20°	2797	2752	2676
25°	2682	2623	2460
30°	2542	2460	2216
35°	2407	2274	2050
40°	2270	2072	1865
45°	2140	1916	1686
50°	1981	1778	1504
55°	1833	1611	1347
60°	1679	1439	1207
65°	1477	1260	1068
70°	1217	1104	908
75°	968	845	886
80°	649	609	569
85°	404	485	568

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2140 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.5	4.7
10°-20°	289.7	13.0
20°-30°	401.0	18.0
30°-40°	427.6	19.2
40°-50°	390.1	17.5
50°-60°	305.6	13.7
60°-70°	199.2	8.9
70°-80°	88.2	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°	796.3	35.8
0°-40°	1223.9	55.0
0°-60°	1919.6	86.2
0°-90°	2226.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2226.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1134	1134	1134	1134	1134	
5°	1114	1113	1113	1112	1112	106
15°	1042	1042	1032	1021	1017	293
25°	903	898	884	852	828	415
35°	733	728	692	640	624	458
45°	562	551	503	461	443	433
55°	391	379	343	303	287	350
65°	232	219	198	202	168	229
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°	1133.9	1133.9	1133.9	1133.9	1133.9
2.5°	1126.0	1126.0	1126.0	1124.7	1124.7
5°	1114.2	1112.9	1112.9	1111.6	1111.6
7.5°	1105.1	1103.7	1102.4	1101.1	1098.5
10°	1091.9	1091.9	1090.6	1084.1	1082.8
12.5°	1071.0	1069.7	1064.4	1055.2	1052.6
15°	1042.1	1042.1	1031.6	1021.2	1017.2
17.5°	1010.7	1009.4	996.3	985.8	980.5
20°	976.6	974.0	960.9	943.8	934.6
22.5°	938.6	938.6	922.8	900.6	891.4
25°	903.2	897.9	883.5	852.1	828.5
27.5°	862.5	854.7	839.0	794.4	766.9
30°	818.0	814.0	791.8	734.1	713.1
32.5°	776.0	769.5	745.9	685.6	668.5
35°	732.8	727.5	692.1	639.7	624.0
37.5°	689.5	683.0	638.4	596.4	576.8
40°	646.3	638.4	589.9	551.9	530.9
42.5°	605.6	595.1	547.9	507.3	483.7
45°	562.4	550.6	503.4	461.4	443.1
47.5°	519.1	508.6	465.4	422.1	401.1
50°	473.2	464.0	424.7	381.5	359.2
52.5°	435.2	420.8	382.8	339.5	321.2
55°	390.6	378.8	343.4	302.8	287.1
57.5°	350.0	338.2	305.4	267.4	254.3
60°	312.0	294.9	267.4	234.6	224.2
62.5°	270.0	256.9	233.3	205.8	218.9
65°	232.0	218.9	197.9	201.9	167.8
67.5°	190.1	183.5	165.2	146.8	141.6
70°	154.7	146.8	140.3	120.6	115.4
72.5°	123.2	115.4	106.2	95.7	91.8
75°	93.1	86.5	81.3	77.3	85.2
77.5°	64.2	61.6	57.7	53.7	52.4
80°	41.9	40.6	39.3	38.0	36.7
82.5°	24.9	24.9	24.9	24.9	24.9
85°	13.1	14.4	15.7	17.0	18.4
87.5°	7.9	7.9	9.2	10.5	11.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)