

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: P561026

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561026
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-81-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1960.0 lumens
Efficiency: N/A
Efficacy: 83.8 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

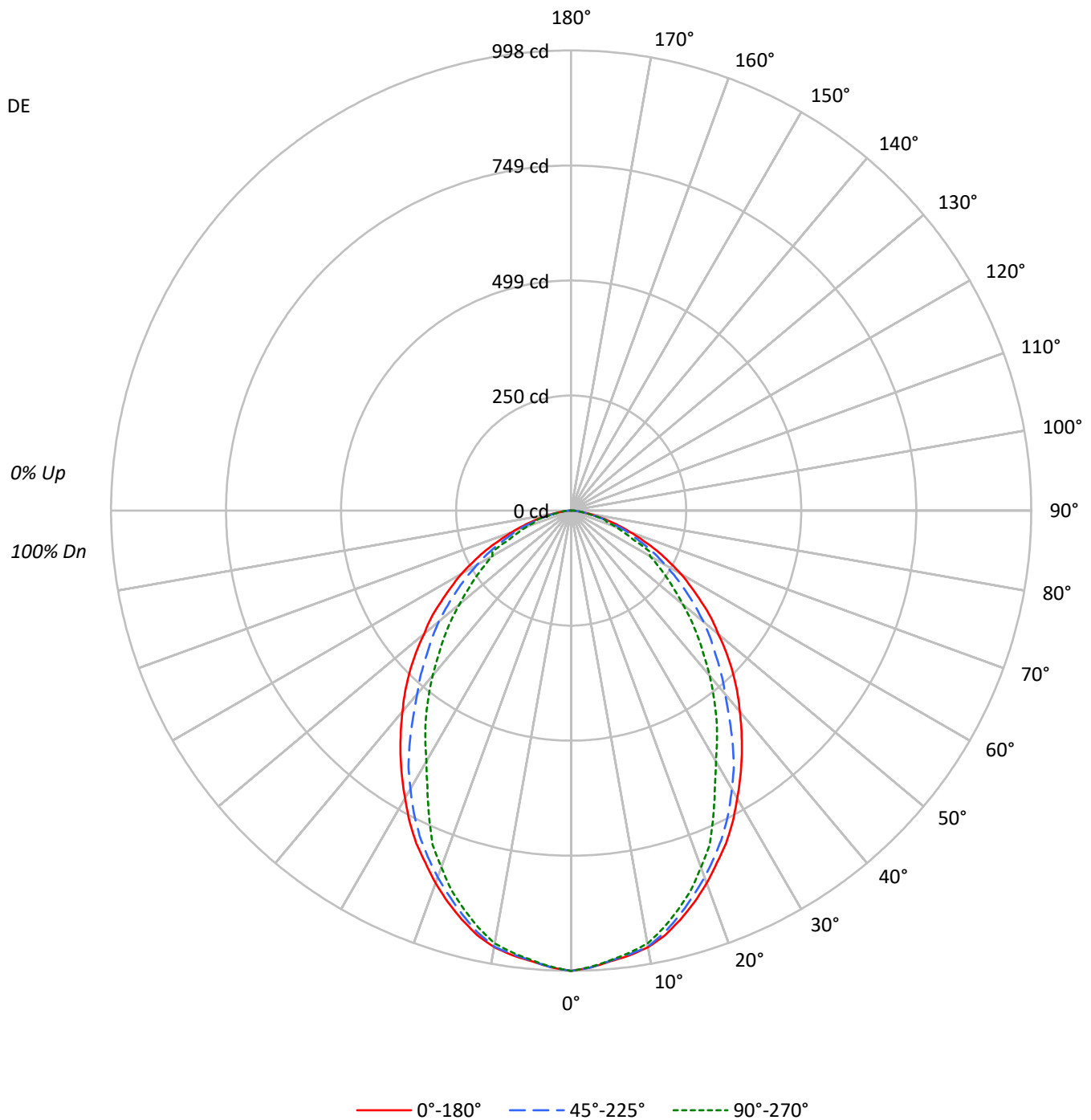
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2687	2687	2687
5°	2650	2647	2644
10°	2627	2624	2605
15°	2556	2531	2495
20°	2462	2423	2357
25°	2361	2310	2166
30°	2238	2166	1951
35°	2120	2002	1805
40°	1999	1825	1642
45°	1885	1687	1485
50°	1744	1566	1324
55°	1614	1419	1186
60°	1478	1267	1062
65°	1301	1110	940
70°	1072	972	799
75°	852	744	780
80°	572	536	501
85°	355	429	500

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1885 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.9	4.7
10°-20°	255.1	13.0
20°-30°	353.1	18.0
30°-40°	376.5	19.2
40°-50°	343.5	17.5
50°-60°	269.1	13.7
60°-70°	175.4	8.9
70°-80°	77.7	4.0
80°-90°	16.7	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°	701.1	35.8
0°-40°	1077.6	55.0
0°-60°	1690.2	86.2
0°-90°	1960.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1960.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	998	998	998	998	998	
5°	981	980	980	979	979	93
15°	918	918	908	899	896	258
25°	795	791	778	750	730	365
35°	645	641	609	563	549	403
45°	495	485	443	406	390	381
55°	344	334	302	267	253	309
65°	204	193	174	178	148	201
75°	82	76	72	68	75	88
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	998.4	998.4	998.4	998.4	998.4
2.5°	991.5	991.5	991.5	990.3	990.3
5°	981.1	979.9	979.9	978.8	978.8
7.5°	973.0	971.9	970.7	969.5	967.2
10°	961.5	961.5	960.3	954.5	953.4
12.5°	943.0	941.8	937.2	929.1	926.8
15°	917.6	917.6	908.4	899.1	895.7
17.5°	889.9	888.7	877.2	868.0	863.4
20°	859.9	857.6	846.0	831.0	823.0
22.5°	826.4	826.4	812.6	792.9	784.9
25°	795.3	790.6	777.9	750.2	729.5
27.5°	759.5	752.5	738.7	699.5	675.2
30°	720.2	716.8	697.1	646.4	627.9
32.5°	683.3	677.5	656.7	603.7	588.7
35°	645.2	640.6	609.4	563.3	549.4
37.5°	607.1	601.3	562.1	525.2	507.9
40°	569.0	562.1	519.4	485.9	467.5
42.5°	533.2	524.0	482.5	446.7	425.9
45°	495.2	484.8	443.2	406.3	390.1
47.5°	457.1	447.8	409.7	371.7	353.2
50°	416.7	408.6	374.0	335.9	316.3
52.5°	383.2	370.5	337.0	298.9	282.8
55°	344.0	333.6	302.4	266.6	252.8
57.5°	308.2	297.8	268.9	235.5	223.9
60°	274.7	259.7	235.5	206.6	197.4
62.5°	237.8	226.2	205.5	181.2	192.8
65°	204.3	192.8	174.3	177.7	147.7
67.5°	167.4	161.6	145.4	129.3	124.7
70°	136.2	129.3	123.5	106.2	101.6
72.5°	108.5	101.6	93.5	84.3	80.8
75°	81.9	76.2	71.6	68.1	75.0
77.5°	56.6	54.2	50.8	47.3	46.2
80°	36.9	35.8	34.6	33.5	32.3
82.5°	21.9	21.9	21.9	21.9	21.9
85°	11.5	12.7	13.9	15.0	16.2
87.5°	6.9	6.9	8.1	9.2	10.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)