

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: P561042

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561042
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-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 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: 1919.0 lumens
Efficiency: N/A
Efficacy: 82.0 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

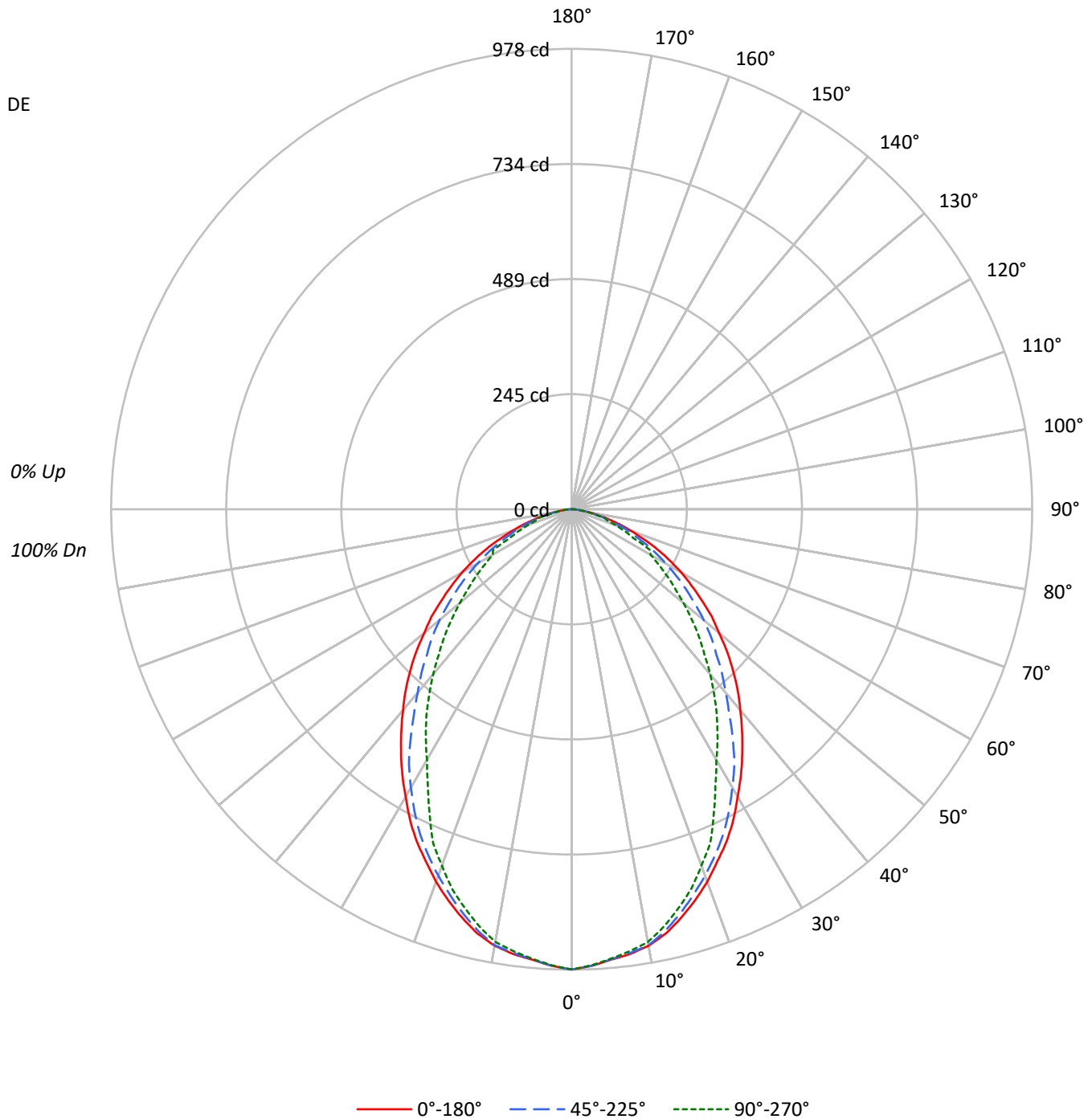
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2630	2630	2630
5°	2595	2592	2589
10°	2572	2569	2551
15°	2503	2478	2443
20°	2411	2372	2307
25°	2312	2262	2121
30°	2191	2121	1910
35°	2075	1960	1767
40°	1957	1786	1608
45°	1845	1651	1454
50°	1708	1533	1296
55°	1580	1389	1161
60°	1448	1241	1040
65°	1273	1086	921
70°	1049	951	782
75°	834	729	764
80°	561	525	490
85°	349	420	488

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1845 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	91.0	4.7
10°-20°	249.7	13.0
20°-30°	345.7	18.0
30°-40°	368.6	19.2
40°-50°	336.3	17.5
50°-60°	263.5	13.7
60°-70°	171.7	8.9
70°-80°	76.1	4.0
80°-90°	16.3	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°	686.4	35.8
0°-40°	1055.1	55.0
0°-60°	1654.9	86.2
0°-90°	1919.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1919.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	978	978	978	978	978	
5°	961	959	959	958	958	91
15°	898	898	889	880	877	253
25°	779	774	762	734	714	357
35°	632	627	597	552	538	395
45°	485	475	434	398	382	373
55°	337	327	296	261	248	302
65°	200	189	171	174	145	197
75°	80	75	70	67	74	86
85°	11	12	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°	977.5	977.5	977.5	977.5	977.5
2.5°	970.7	970.7	970.7	969.6	969.6
5°	960.6	959.4	959.4	958.3	958.3
7.5°	952.7	951.5	950.4	949.3	947.0
10°	941.4	941.4	940.2	934.6	933.4
12.5°	923.3	922.1	917.6	909.7	907.4
15°	898.4	898.4	889.4	880.3	876.9
17.5°	871.3	870.2	858.9	849.8	845.3
20°	841.9	839.6	828.3	813.7	805.7
22.5°	809.1	809.1	795.6	776.4	768.4
25°	778.6	774.1	761.7	734.5	714.2
27.5°	743.6	736.8	723.2	684.8	661.1
30°	705.2	701.8	682.6	632.8	614.8
32.5°	669.0	663.4	643.0	591.0	576.3
35°	631.7	627.2	596.7	551.5	537.9
37.5°	594.4	588.8	550.3	514.2	497.2
40°	557.1	550.3	508.5	475.8	457.7
42.5°	522.1	513.1	472.4	437.3	417.0
45°	484.8	474.6	433.9	397.8	382.0
47.5°	447.5	438.5	401.2	363.9	345.8
50°	408.0	400.0	366.1	328.9	309.6
52.5°	375.2	362.8	330.0	292.7	276.9
55°	336.8	326.6	296.1	261.0	247.5
57.5°	301.7	291.6	263.3	230.5	219.2
60°	269.0	254.3	230.5	202.3	193.2
62.5°	232.8	221.5	201.2	177.4	188.7
65°	200.0	188.7	170.6	174.0	144.6
67.5°	163.9	158.2	142.4	126.6	122.0
70°	133.3	126.6	120.9	104.0	99.4
72.5°	106.2	99.4	91.5	82.5	79.1
75°	80.2	74.6	70.1	66.7	73.5
77.5°	55.4	53.1	49.7	46.3	45.2
80°	36.2	35.0	33.9	32.8	31.6
82.5°	21.5	21.5	21.5	21.5	21.5
85°	11.3	12.4	13.6	14.7	15.8
87.5°	6.8	6.8	7.9	9.0	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)