

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: P560980

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560980
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-35-UNV-82-86-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1870.0 lumens
Efficiency: N/A
Efficacy: 79.9 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

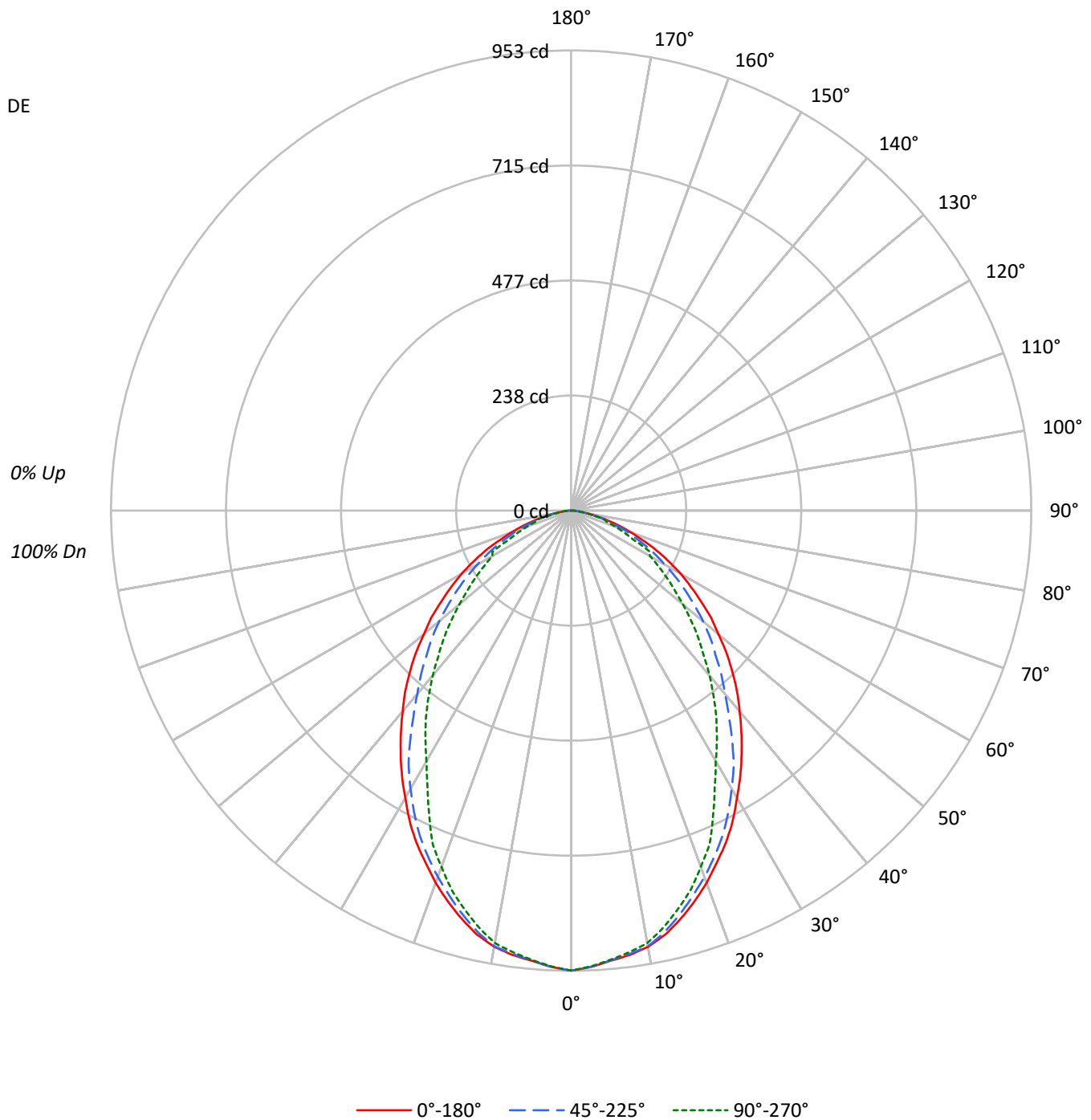
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2563	2563	2563
5°	2528	2525	2522
10°	2507	2504	2485
15°	2439	2415	2381
20°	2349	2312	2249
25°	2253	2204	2067
30°	2135	2067	1862
35°	2022	1910	1722
40°	1907	1741	1567
45°	1798	1609	1416
50°	1664	1494	1263
55°	1540	1354	1132
60°	1411	1209	1013
65°	1241	1059	898
70°	1022	927	762
75°	813	710	744
80°	545	511	477
85°	340	408	475

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1798 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.7	4.7
10°-20°	243.3	13.0
20°-30°	336.9	18.0
30°-40°	359.2	19.2
40°-50°	327.7	17.5
50°-60°	256.7	13.7
60°-70°	167.3	8.9
70°-80°	74.1	4.0
80°-90°	15.9	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°	668.9	35.8
0°-40°	1028.1	55.0
0°-60°	1612.6	86.2
0°-90°	1870.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1870.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	953	953	953	953	953	
5°	936	935	935	934	934	89
15°	876	876	867	858	854	246
25°	759	754	742	716	696	348
35°	616	611	581	537	524	385
45°	472	462	423	388	372	364
55°	328	318	288	254	241	294
65°	195	184	166	170	141	192
75°	78	73	68	65	72	84
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	952.6	952.6	952.6	952.6	952.6
2.5°	945.9	945.9	945.9	944.8	944.8
5°	936.0	934.9	934.9	933.8	933.8
7.5°	928.3	927.2	926.1	925.0	922.8
10°	917.3	917.3	916.2	910.7	909.6
12.5°	899.7	898.6	894.2	886.5	884.3
15°	875.5	875.5	866.7	857.8	854.5
17.5°	849.0	847.9	836.9	828.1	823.7
20°	820.4	818.2	807.2	792.9	785.2
22.5°	788.5	788.5	775.3	756.5	748.8
25°	758.7	754.3	742.2	715.8	696.0
27.5°	724.6	718.0	704.8	667.3	644.2
30°	687.2	683.9	665.1	616.7	599.1
32.5°	651.9	646.4	626.6	575.9	561.6
35°	615.6	611.2	581.4	537.4	524.2
37.5°	579.2	573.7	536.3	501.1	484.5
40°	542.9	536.3	495.5	463.6	446.0
42.5°	508.8	500.0	460.3	426.2	406.3
45°	472.4	462.5	422.9	387.6	372.2
47.5°	436.1	427.3	390.9	354.6	337.0
50°	397.5	389.8	356.8	320.5	301.7
52.5°	365.6	353.5	321.6	285.2	269.8
55°	328.2	318.3	288.5	254.4	241.2
57.5°	294.0	284.1	256.6	224.6	213.6
60°	262.1	247.8	224.6	197.1	188.3
62.5°	226.9	215.8	196.0	172.9	183.9
65°	194.9	183.9	166.3	169.6	141.0
67.5°	159.7	154.2	138.8	123.3	118.9
70°	129.9	123.3	117.8	101.3	96.9
72.5°	103.5	96.9	89.2	80.4	77.1
75°	78.2	72.7	68.3	65.0	71.6
77.5°	54.0	51.8	48.5	45.1	44.0
80°	35.2	34.1	33.0	31.9	30.8
82.5°	20.9	20.9	20.9	20.9	20.9
85°	11.0	12.1	13.2	14.3	15.4
87.5°	6.6	6.6	7.7	8.8	9.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)