

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: P563462

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563462
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-24-4-LD4-3STD-35-UNV-81-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8726.0 lumens
Efficiency: N/A
Efficacy: 87.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

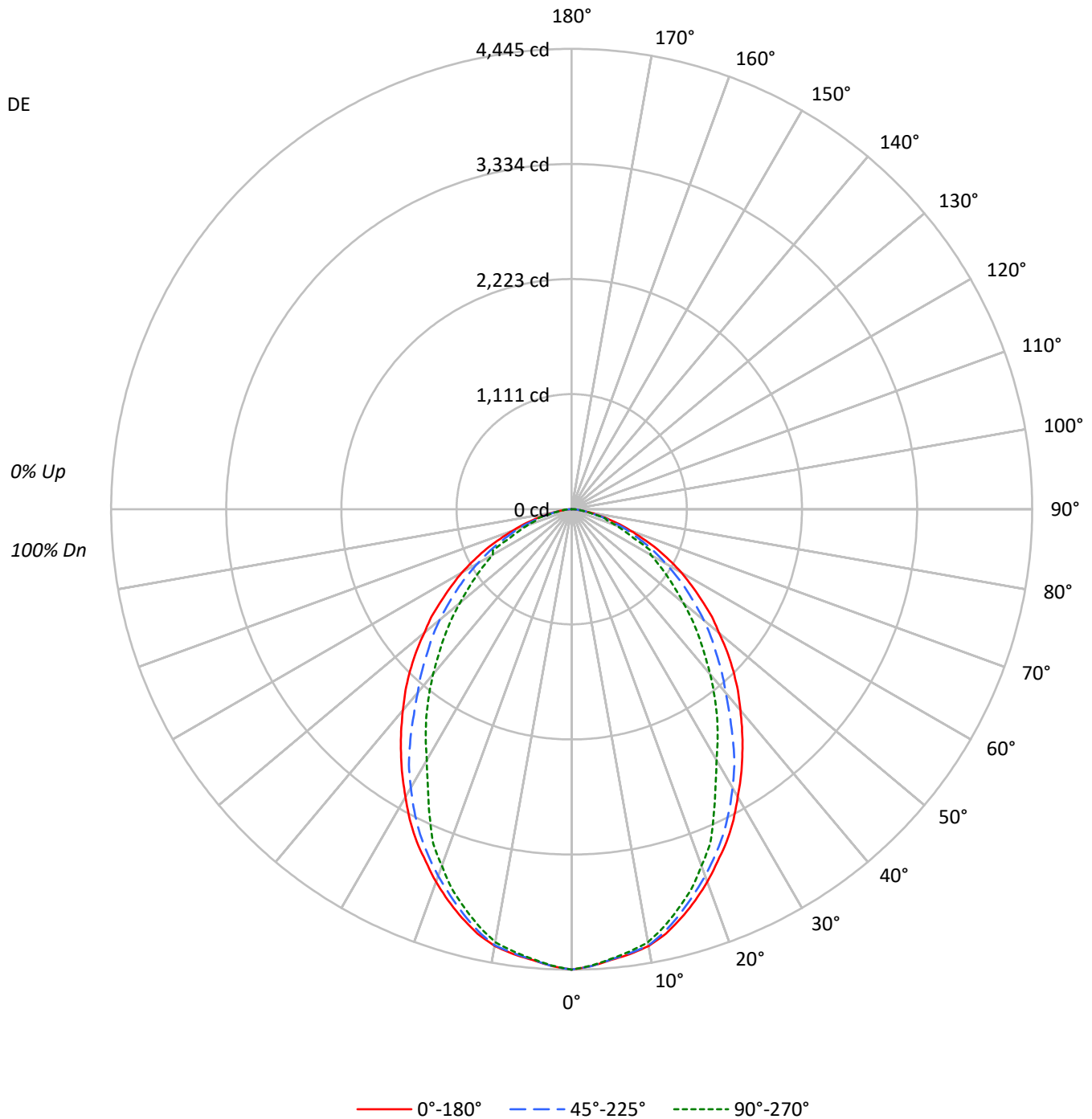
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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											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°	5981	5981	5981
5°	5899	5892	5886
10°	5848	5841	5799
15°	5690	5633	5555
20°	5482	5393	5246
25°	5256	5142	4821
30°	4982	4822	4343
35°	4718	4457	4018
40°	4450	4062	3655
45°	4195	3755	3305
50°	3883	3485	2947
55°	3592	3158	2640
60°	3291	2821	2365
65°	2896	2470	2094
70°	2386	2163	1779
75°	1896	1656	1736
80°	1274	1195	1115
85°	794	953	1110

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4195 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	413.8	4.7
10°-20°	1135.5	13.0
20°-30°	1572.1	18.0
30°-40°	1676.3	19.2
40°-50°	1529.2	17.5
50°-60°	1198.1	13.7
60°-70°	780.8	8.9
70°-80°	345.9	4.0
80°-90°	74.3	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°	3121.4	35.8
0°-40°	4797.6	55.0
0°-60°	7524.9	86.2
0°-90°	8726.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8726.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4445	4445	4445	4445	4445	
5°	4368	4363	4363	4358	4358	415
15°	4085	4085	4044	4003	3988	1148
25°	3540	3520	3463	3340	3248	1625
35°	2872	2852	2713	2508	2446	1796
45°	2204	2158	1973	1809	1737	1698
55°	1531	1485	1346	1187	1125	1373
65°	910	858	776	791	658	896
75°	365	339	319	303	334	391
85°	51	56	62	67	72	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4444.9	4444.9	4444.9	4444.9	4444.9
2.5°	4414.1	4414.1	4414.1	4408.9	4408.9
5°	4367.8	4362.7	4362.7	4357.6	4357.6
7.5°	4331.9	4326.7	4321.6	4316.4	4306.2
10°	4280.5	4280.5	4275.3	4249.6	4244.5
12.5°	4198.3	4193.1	4172.6	4136.6	4126.3
15°	4085.2	4085.2	4044.1	4003.0	3987.6
17.5°	3961.9	3956.7	3905.4	3864.2	3843.7
20°	3828.3	3818.0	3766.6	3699.8	3663.8
22.5°	3679.3	3679.3	3617.6	3530.2	3494.3
25°	3540.5	3520.0	3463.4	3340.1	3247.6
27.5°	3381.2	3350.4	3288.7	3114.0	3006.1
30°	3206.5	3191.1	3103.7	2877.6	2795.4
32.5°	3042.1	3016.4	2923.9	2687.5	2620.7
35°	2872.5	2851.9	2713.2	2507.6	2446.0
37.5°	2702.9	2677.2	2502.5	2338.1	2261.0
40°	2533.3	2502.5	2312.4	2163.4	2081.1
42.5°	2374.0	2332.9	2147.9	1988.6	1896.2
45°	2204.5	2158.2	1973.2	1808.8	1736.9
47.5°	2034.9	1993.8	1824.2	1654.6	1572.4
50°	1855.0	1819.1	1664.9	1495.3	1408.0
52.5°	1706.0	1649.5	1500.5	1330.9	1259.0
55°	1531.3	1485.1	1346.3	1187.0	1125.4
57.5°	1372.0	1325.8	1197.3	1048.3	996.9
60°	1223.0	1156.2	1048.3	919.8	878.7
62.5°	1058.6	1007.2	914.7	806.8	858.1
65°	909.5	858.1	775.9	791.3	657.7
67.5°	745.1	719.4	647.5	575.5	555.0
70°	606.4	575.5	549.8	472.8	452.2
72.5°	483.0	452.2	416.2	375.1	359.7
75°	364.8	339.1	318.6	303.2	334.0
77.5°	251.8	241.5	226.1	210.7	205.5
80°	164.4	159.3	154.2	149.0	143.9
82.5°	97.6	97.6	97.6	97.6	97.6
85°	51.4	56.5	61.7	66.8	71.9
87.5°	30.8	30.8	36.0	41.1	46.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)