

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: P563606

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563606
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-50-UNV-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9123.0 lumens
Efficiency: N/A
Efficacy: 91.3 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

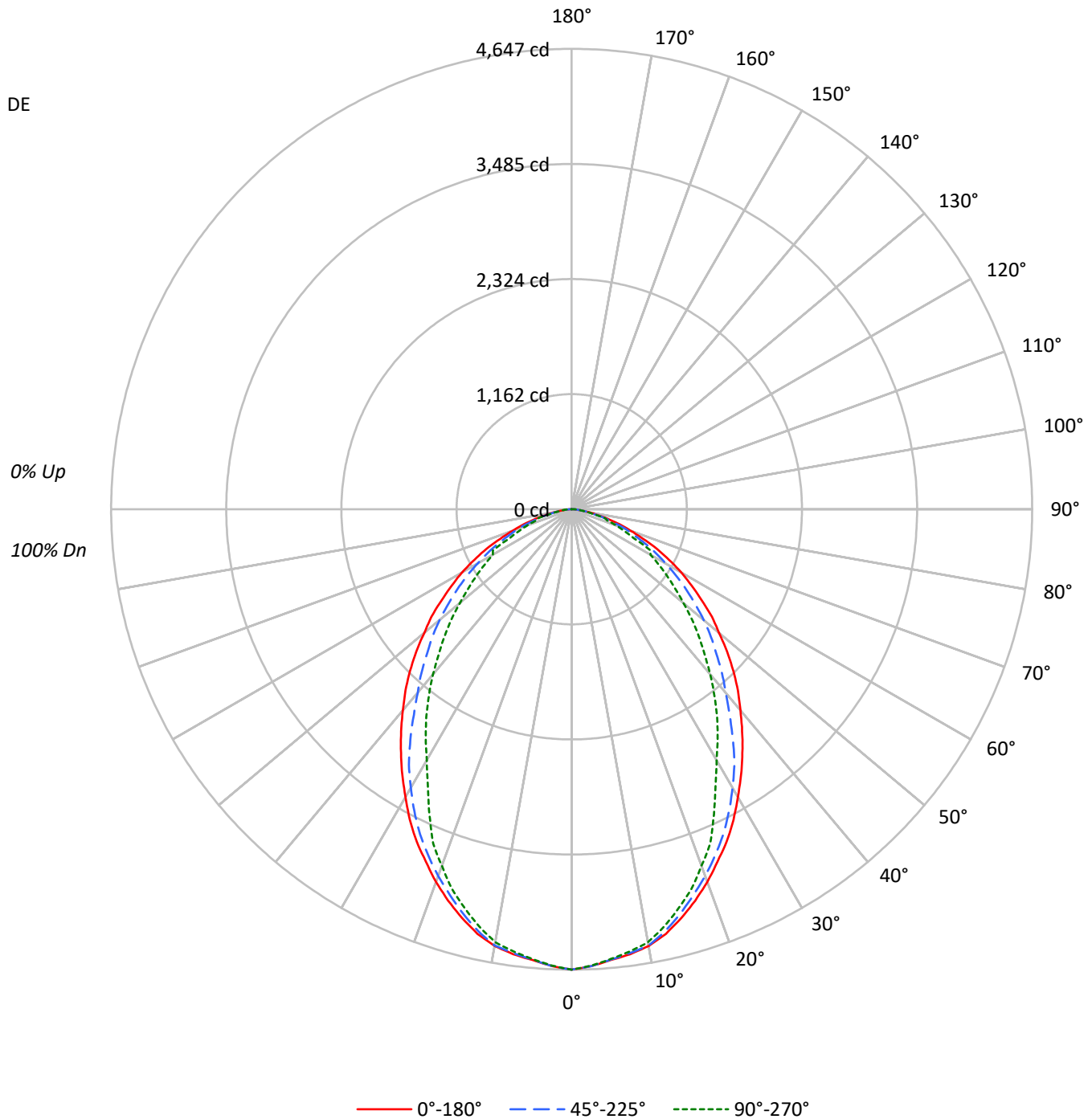
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6253	6253	6253
5°	6168	6160	6153
10°	6114	6107	6063
15°	5949	5890	5807
20°	5731	5639	5485
25°	5495	5376	5041
30°	5208	5041	4541
35°	4933	4659	4200
40°	4652	4246	3822
45°	4386	3925	3455
50°	4060	3644	3081
55°	3756	3302	2760
60°	3441	2949	2472
65°	3027	2583	2189
70°	2494	2261	1860
75°	1983	1732	1815
80°	1332	1249	1165
85°	829	996	1161

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4386 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	432.6	4.7
10°-20°	1187.2	13.0
20°-30°	1643.6	18.0
30°-40°	1752.5	19.2
40°-50°	1598.8	17.5
50°-60°	1252.6	13.7
60°-70°	816.4	8.9
70°-80°	361.7	4.0
80°-90°	77.7	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°	3263.4	35.8
0°-40°	5015.9	55.0
0°-60°	7867.3	86.2
0°-90°	9123.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9123.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4647	4647	4647	4647	4647	
5°	4566	4561	4561	4556	4556	433
15°	4271	4271	4228	4185	4169	1201
25°	3702	3680	3621	3492	3395	1699
35°	3003	2982	2837	2622	2557	1878
45°	2305	2256	2063	1891	1816	1775
55°	1601	1553	1408	1241	1177	1436
65°	951	897	811	827	688	937
75°	381	355	333	317	349	409
85°	54	59	64	70	75	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4647.1	4647.1	4647.1	4647.1	4647.1
2.5°	4614.9	4614.9	4614.9	4609.5	4609.5
5°	4566.5	4561.2	4561.2	4555.8	4555.8
7.5°	4528.9	4523.6	4518.2	4512.8	4502.1
10°	4475.2	4475.2	4469.8	4443.0	4437.6
12.5°	4389.3	4383.9	4362.4	4324.8	4314.0
15°	4271.1	4271.1	4228.1	4185.1	4169.0
17.5°	4142.1	4136.8	4083.0	4040.1	4018.6
20°	4002.4	3991.7	3938.0	3868.1	3830.5
22.5°	3846.6	3846.6	3782.2	3690.8	3653.2
25°	3701.6	3680.1	3621.0	3492.1	3395.4
27.5°	3535.0	3502.8	3438.3	3255.7	3142.9
30°	3352.4	3336.3	3244.9	3008.5	2922.6
32.5°	3180.5	3153.6	3056.9	2809.8	2739.9
35°	3003.2	2981.7	2836.6	2621.7	2557.3
37.5°	2825.9	2799.0	2616.4	2444.4	2363.9
40°	2648.6	2616.4	2417.6	2261.8	2175.8
42.5°	2482.1	2439.1	2245.7	2079.1	1982.4
45°	2304.8	2256.4	2063.0	1891.1	1815.9
47.5°	2127.5	2084.5	1907.2	1729.9	1644.0
50°	1939.4	1901.8	1740.7	1563.4	1472.0
52.5°	1783.6	1724.5	1568.7	1391.5	1316.2
55°	1601.0	1552.6	1407.6	1241.0	1176.6
57.5°	1434.4	1386.1	1251.8	1096.0	1042.2
60°	1278.6	1208.8	1096.0	961.7	918.7
62.5°	1106.7	1053.0	956.3	843.5	897.2
65°	950.9	897.2	811.2	827.4	687.7
67.5°	779.0	752.1	676.9	601.7	580.2
70°	633.9	601.7	574.8	494.3	472.8
72.5°	505.0	472.8	435.2	392.2	376.1
75°	381.4	354.6	333.1	317.0	349.2
77.5°	263.2	252.5	236.4	220.3	214.9
80°	171.9	166.5	161.2	155.8	150.4
82.5°	102.1	102.1	102.1	102.1	102.1
85°	53.7	59.1	64.5	69.8	75.2
87.5°	32.2	32.2	37.6	43.0	48.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)