

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: P563856

Luminaire Tested: FSR-24-4-LD4-4LO-35-UNV-82-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563856
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-LD4-4LO-35-UNV-82-84-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9071.0 lumens
Efficiency: N/A
Efficacy: 96.9 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

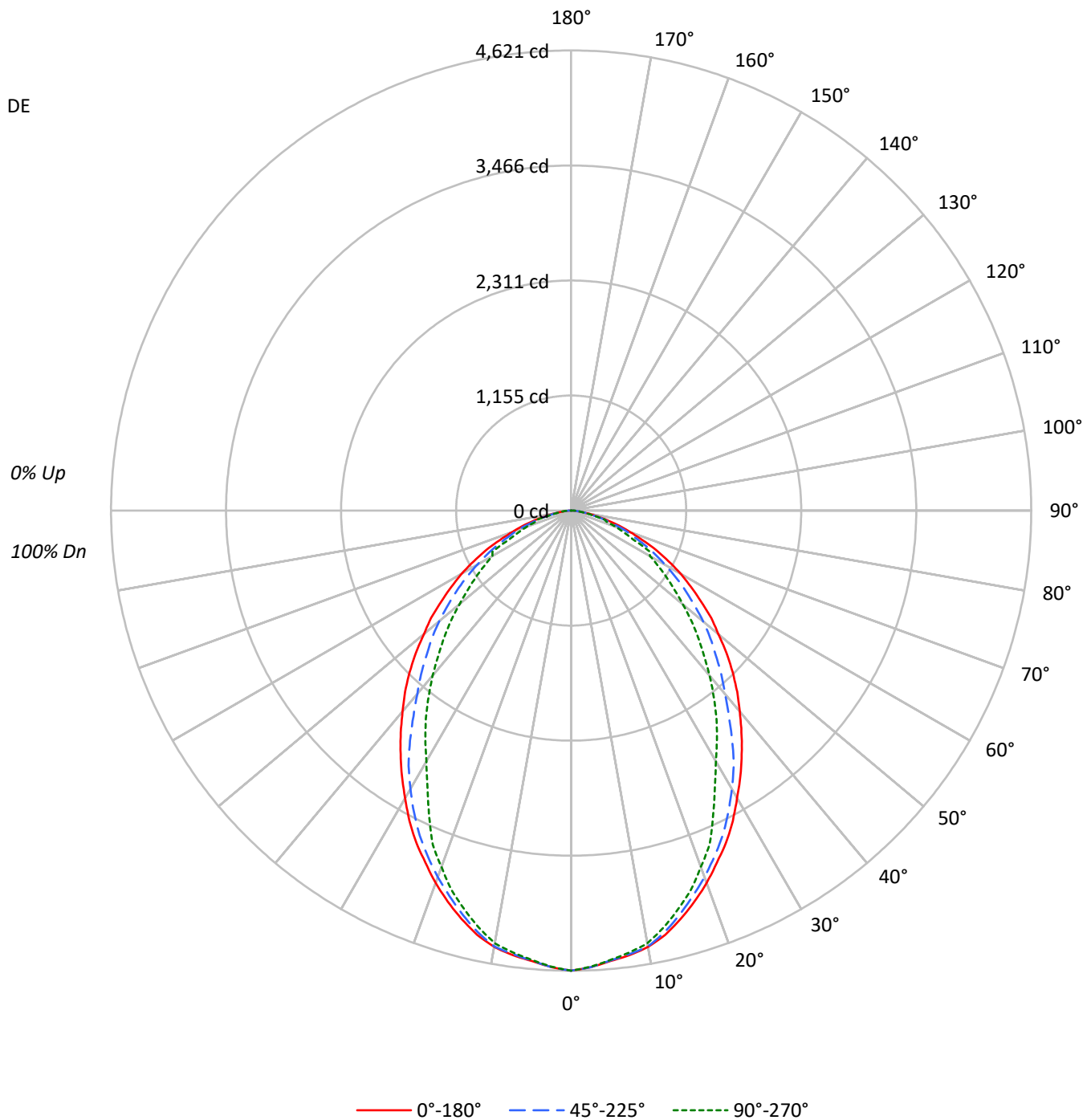
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6217	6217	6217
5°	6133	6125	6118
10°	6079	6072	6028
15°	5915	5856	5774
20°	5698	5606	5453
25°	5464	5345	5012
30°	5179	5013	4515
35°	4905	4633	4176
40°	4626	4222	3800
45°	4360	3903	3436
50°	4037	3623	3064
55°	3734	3283	2744
60°	3421	2932	2458
65°	3010	2568	2177
70°	2480	2249	1849
75°	1972	1722	1805
80°	1324	1242	1159
85°	824	990	1155

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4360 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	430.1	4.7
10°-20°	1180.4	13.0
20°-30°	1634.2	18.0
30°-40°	1742.6	19.2
40°-50°	1589.7	17.5
50°-60°	1245.4	13.7
60°-70°	811.7	8.9
70°-80°	359.6	4.0
80°-90°	77.2	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°	3244.8	35.8
0°-40°	4987.3	55.0
0°-60°	7822.5	86.2
0°-90°	9071.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9071.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4621	4621	4621	4621	4621	
5°	4540	4535	4535	4530	4530	431
15°	4247	4247	4204	4161	4145	1194
25°	3680	3659	3600	3472	3376	1690
35°	2986	2965	2820	2607	2543	1867
45°	2292	2244	2051	1880	1806	1765
55°	1592	1544	1400	1234	1170	1428
65°	946	892	807	823	684	932
75°	379	353	331	315	347	406
85°	53	59	64	69	75	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4620.6	4620.6	4620.6	4620.6	4620.6
2.5°	4588.6	4588.6	4588.6	4583.3	4583.3
5°	4540.5	4535.2	4535.2	4529.8	4529.8
7.5°	4503.1	4497.8	4492.4	4487.1	4476.4
10°	4449.7	4449.7	4444.4	4417.7	4412.3
12.5°	4364.2	4358.9	4337.5	4300.1	4289.5
15°	4246.7	4246.7	4204.0	4161.3	4145.2
17.5°	4118.5	4113.2	4059.8	4017.0	3995.7
20°	3979.6	3968.9	3915.5	3846.1	3808.7
22.5°	3824.7	3824.7	3760.6	3669.8	3632.4
25°	3680.5	3659.1	3600.4	3472.2	3376.0
27.5°	3514.9	3482.8	3418.7	3237.1	3124.9
30°	3333.3	3317.3	3226.4	2991.4	2905.9
32.5°	3162.3	3135.6	3039.5	2793.8	2724.3
35°	2986.1	2964.7	2820.5	2606.8	2542.7
37.5°	2809.8	2783.1	2601.5	2430.5	2350.4
40°	2633.5	2601.5	2403.8	2248.9	2163.4
42.5°	2467.9	2425.2	2232.9	2067.3	1971.1
45°	2291.6	2243.6	2051.2	1880.3	1805.5
47.5°	2115.3	2072.6	1896.3	1720.1	1634.6
50°	1928.4	1891.0	1730.7	1554.5	1463.6
52.5°	1773.5	1714.7	1559.8	1383.5	1308.7
55°	1591.9	1543.8	1399.5	1234.0	1169.9
57.5°	1426.3	1378.2	1244.6	1089.7	1036.3
60°	1271.3	1201.9	1089.7	956.2	913.4
62.5°	1100.4	1047.0	950.8	838.7	892.1
65°	945.5	892.1	806.6	822.6	683.7
67.5°	774.6	747.9	673.1	598.3	576.9
70°	630.3	598.3	571.6	491.4	470.1
72.5°	502.1	470.1	432.7	390.0	373.9
75°	379.3	352.6	331.2	315.2	347.2
77.5°	261.7	251.1	235.0	219.0	213.7
80°	170.9	165.6	160.3	154.9	149.6
82.5°	101.5	101.5	101.5	101.5	101.5
85°	53.4	58.8	64.1	69.4	74.8
87.5°	32.1	32.1	37.4	42.7	48.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)