

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: P564122

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-82-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564122
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-LD4-4STD-40-UNV-82-94-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12348.0 lumens
Efficiency: N/A
Efficacy: 92.7 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

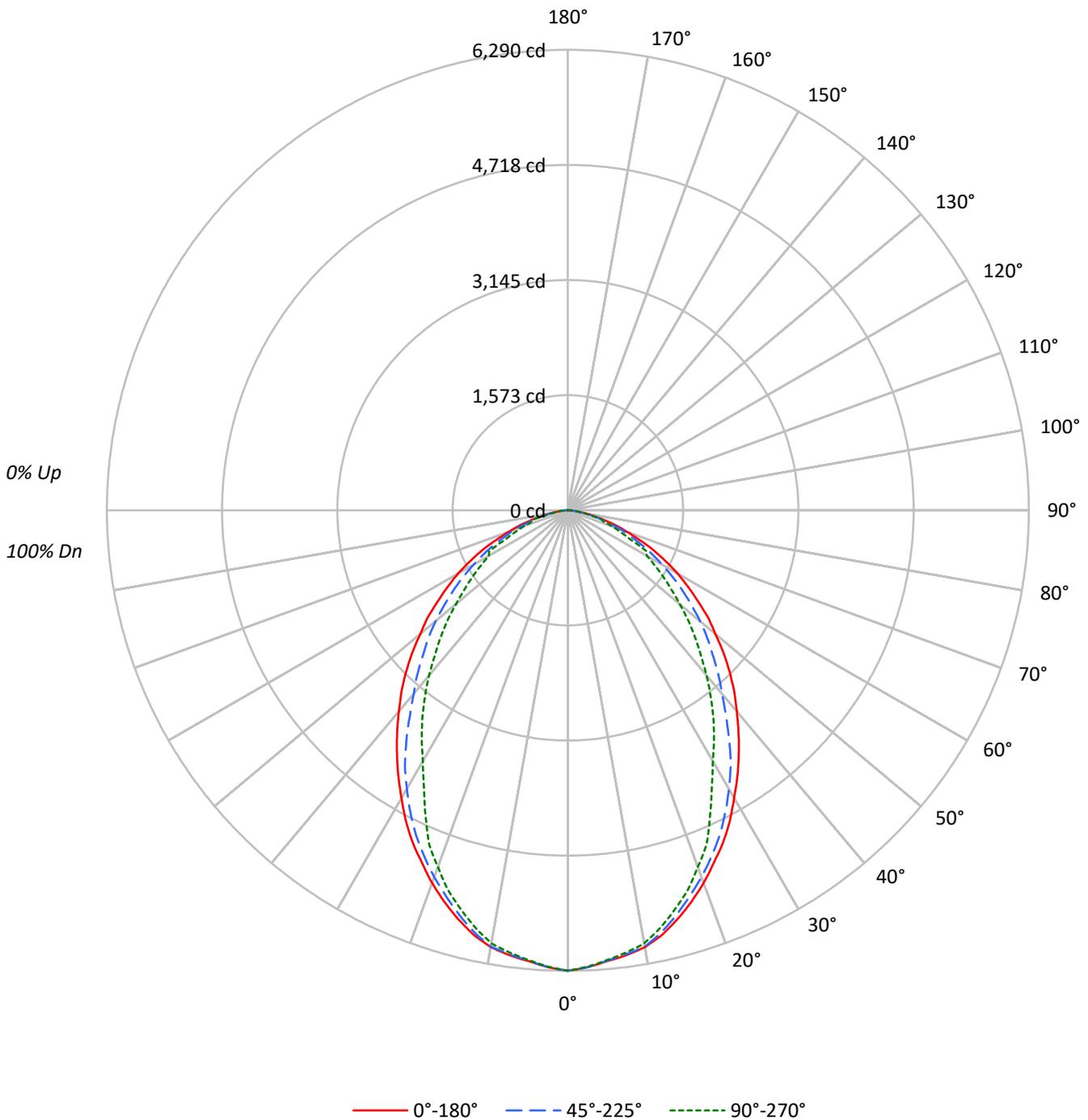
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8463	8463	8463
5°	8348	8338	8328
10°	8276	8266	8206
15°	8053	7971	7860
20°	7757	7632	7424
25°	7438	7276	6823
30°	7050	6824	6146
35°	6677	6306	5685
40°	6297	5747	5173
45°	5936	5313	4677
50°	5495	4932	4171
55°	5083	4469	3736
60°	4657	3992	3346
65°	4098	3496	2963
70°	3375	3061	2517
75°	2684	2344	2457
80°	1803	1690	1578
85°	1122	1348	1572

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5936 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	585.5	4.7
10°-20°	1606.9	13.0
20°-30°	2224.6	18.0
30°-40°	2372.1	19.2
40°-50°	2164.0	17.5
50°-60°	1695.3	13.7
60°-70°	1104.9	8.9
70°-80°	489.5	4.0
80°-90°	105.1	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°	4417.0	35.8
0°-40°	6789.1	55.0
0°-60°	10648.4	86.2
0°-90°	12348.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12348.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6290	6290	6290	6290	6290	
5°	6181	6174	6174	6166	6166	587
15°	5781	5781	5723	5665	5643	1625
25°	5010	4981	4901	4726	4596	2300
35°	4065	4036	3839	3548	3461	2541
45°	3120	3054	2792	2560	2458	2403
55°	2167	2102	1905	1680	1592	1944
65°	1287	1214	1098	1120	931	1268
75°	516	480	451	429	473	553
85°	73	80	87	94	102	101
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6289.9	6289.9	6289.9	6289.9	6289.9
2.5°	6246.3	6246.3	6246.3	6239.0	6239.0
5°	6180.8	6173.6	6173.6	6166.3	6166.3
7.5°	6129.9	6122.7	6115.4	6108.1	6093.6
10°	6057.2	6057.2	6049.9	6013.6	6006.3
12.5°	5940.9	5933.6	5904.5	5853.6	5839.1
15°	5780.9	5780.9	5722.7	5664.6	5642.7
17.5°	5606.4	5599.1	5526.4	5468.2	5439.1
20°	5417.3	5402.8	5330.1	5235.5	5184.6
22.5°	5206.4	5206.4	5119.2	4995.6	4944.7
25°	5010.1	4981.0	4901.0	4726.5	4595.6
27.5°	4784.7	4741.1	4653.8	4406.6	4253.9
30°	4537.5	4515.6	4392.0	4072.1	3955.7
32.5°	4304.8	4268.4	4137.5	3803.0	3708.5
35°	4064.8	4035.7	3839.4	3548.5	3461.3
37.5°	3824.8	3788.5	3541.3	3308.6	3199.5
40°	3584.9	3541.3	3272.2	3061.3	2945.0
42.5°	3359.5	3301.3	3039.5	2814.1	2683.2
45°	3119.5	3054.1	2792.3	2559.6	2457.8
47.5°	2879.5	2821.4	2581.4	2341.4	2225.1
50°	2625.0	2574.1	2356.0	2116.0	1992.4
52.5°	2414.2	2334.2	2123.3	1883.3	1781.5
55°	2166.9	2101.5	1905.2	1679.7	1592.5
57.5°	1941.5	1876.1	1694.3	1483.4	1410.7
60°	1730.6	1636.1	1483.4	1301.6	1243.4
62.5°	1497.9	1425.2	1294.3	1141.6	1214.4
65°	1287.1	1214.4	1098.0	1119.8	930.8
67.5°	1054.4	1018.0	916.2	814.4	785.3
70°	858.0	814.4	778.1	669.0	639.9
72.5°	683.5	639.9	589.0	530.8	509.0
75°	516.3	479.9	450.8	429.0	472.7
77.5°	356.3	341.8	319.9	298.1	290.9
80°	232.7	225.4	218.1	210.9	203.6
82.5°	138.2	138.2	138.2	138.2	138.2
85°	72.7	80.0	87.3	94.5	101.8
87.5°	43.6	43.6	50.9	58.2	65.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)