

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: P563936

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-93-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563936
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-40-UNV-93-84-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9912.0 lumens
Efficiency: N/A
Efficacy: 105.9 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

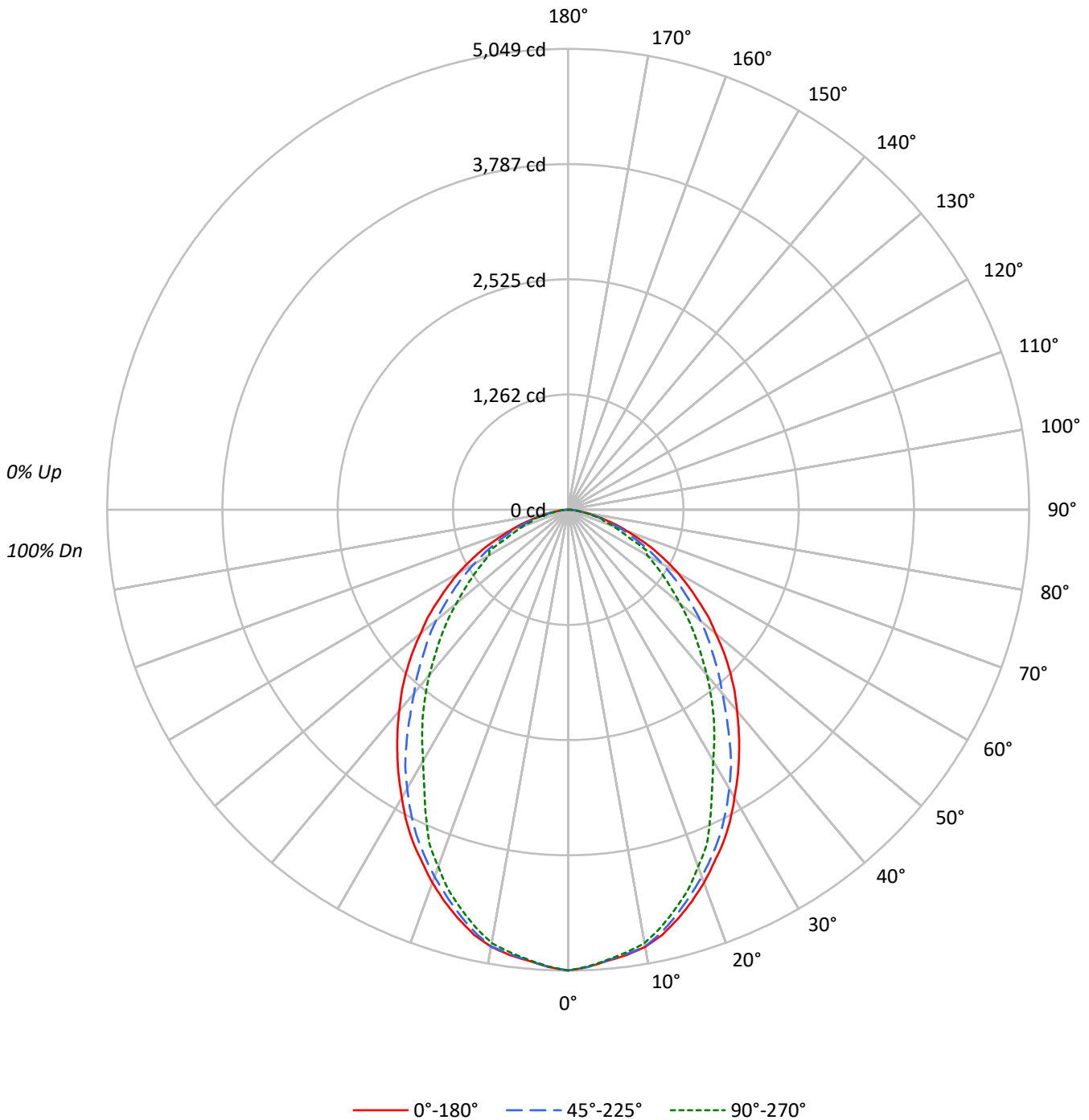
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6793	6793	6793
5°	6701	6693	6685
10°	6643	6635	6587
15°	6464	6399	6309
20°	6226	6126	5959
25°	5971	5841	5477
30°	5659	5478	4933
35°	5359	5062	4564
40°	5054	4614	4152
45°	4765	4265	3754
50°	4411	3959	3348
55°	4080	3587	2999
60°	3738	3204	2686
65°	3289	2806	2379
70°	2710	2457	2021
75°	2154	1881	1972
80°	1447	1357	1266
85°	902	1081	1261

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4765 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	470.0	4.7
10°-20°	1289.9	13.0
20°-30°	1785.7	18.0
30°-40°	1904.1	19.2
40°-50°	1737.1	17.5
50°-60°	1360.9	13.7
60°-70°	887.0	8.9
70°-80°	393.0	4.0
80°-90°	84.4	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°	3545.6	35.8
0°-40°	5449.7	55.0
0°-60°	8547.7	86.2
0°-90°	9912.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9912.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5049	5049	5049	5049	5049	
5°	4962	4956	4956	4950	4950	471
15°	4640	4640	4594	4547	4530	1305
25°	4022	3998	3934	3794	3689	1846
35°	3263	3240	3082	2848	2778	2040
45°	2504	2452	2241	2055	1973	1929
55°	1739	1687	1529	1348	1278	1560
65°	1033	975	881	899	747	1018
75°	414	385	362	344	379	444
85°	58	64	70	76	82	81
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5049.0	5049.0	5049.0	5049.0	5049.0
2.5°	5014.0	5014.0	5014.0	5008.2	5008.2
5°	4961.5	4955.6	4955.6	4949.8	4949.8
7.5°	4920.6	4914.8	4909.0	4903.1	4891.4
10°	4862.3	4862.3	4856.4	4827.2	4821.4
12.5°	4768.9	4763.0	4739.7	4698.8	4687.1
15°	4640.4	4640.4	4593.8	4547.1	4529.5
17.5°	4500.4	4494.5	4436.2	4389.5	4366.1
20°	4348.6	4336.9	4278.6	4202.7	4161.8
22.5°	4179.3	4179.3	4109.3	4010.0	3969.2
25°	4021.7	3998.4	3934.2	3794.1	3689.0
27.5°	3840.8	3805.8	3735.7	3537.2	3414.7
30°	3642.3	3624.8	3525.6	3268.7	3175.4
32.5°	3455.5	3426.3	3321.3	3052.8	2976.9
35°	3262.9	3239.6	3082.0	2848.5	2778.4
37.5°	3070.3	3041.1	2842.6	2655.9	2568.3
40°	2877.7	2842.6	2626.7	2457.4	2364.0
42.5°	2696.7	2650.0	2439.9	2258.9	2153.9
45°	2504.1	2451.6	2241.4	2054.6	1972.9
47.5°	2311.5	2264.8	2072.1	1879.5	1786.1
50°	2107.2	2066.3	1891.2	1698.6	1599.3
52.5°	1937.9	1873.7	1704.4	1511.8	1430.1
55°	1739.4	1686.9	1529.3	1348.4	1278.3
57.5°	1558.5	1506.0	1360.0	1190.8	1132.4
60°	1389.2	1313.3	1190.8	1044.8	998.1
62.5°	1202.4	1144.1	1039.0	916.4	974.8
65°	1033.2	974.8	881.4	898.9	747.1
67.5°	846.4	817.2	735.5	653.7	630.4
70°	688.8	653.7	624.6	537.0	513.7
72.5°	548.7	513.7	472.8	426.1	408.6
75°	414.4	385.2	361.9	344.4	379.4
77.5°	286.0	274.3	256.8	239.3	233.5
80°	186.8	180.9	175.1	169.3	163.4
82.5°	110.9	110.9	110.9	110.9	110.9
85°	58.4	64.2	70.0	75.9	81.7
87.5°	35.0	35.0	40.9	46.7	52.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)