

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: P562570

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562570
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-LD4-2HI-40-UNV-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 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: 7736.0 lumens
Efficiency: N/A
Efficacy: 89.5 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

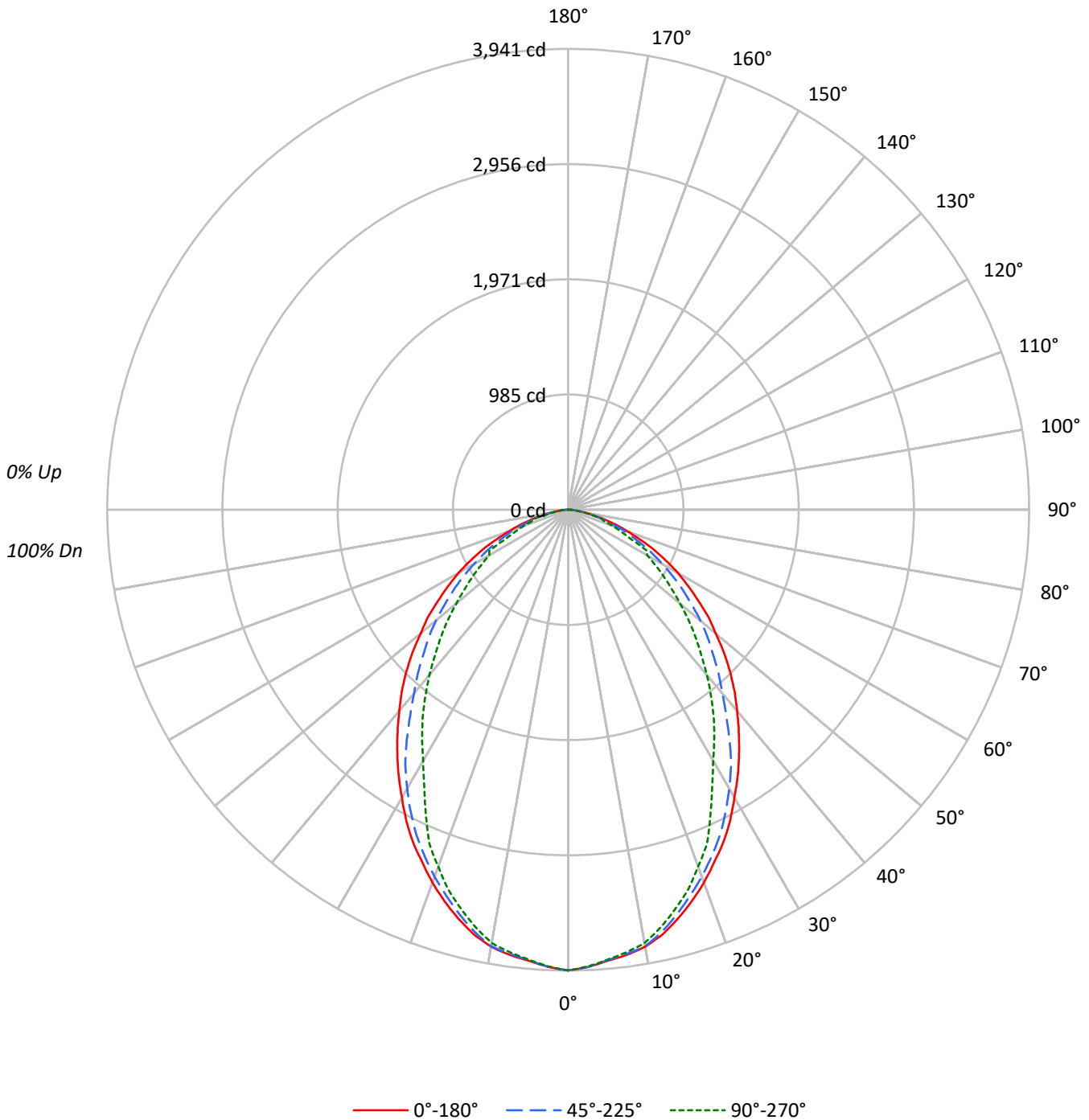
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5302	5302	5302
5°	5230	5224	5218
10°	5185	5178	5141
15°	5045	4994	4924
20°	4860	4781	4651
25°	4660	4558	4274
30°	4417	4275	3850
35°	4183	3951	3562
40°	3945	3601	3241
45°	3719	3329	2930
50°	3442	3090	2613
55°	3185	2800	2340
60°	2918	2501	2096
65°	2567	2190	1856
70°	2115	1918	1577
75°	1681	1468	1539
80°	1130	1059	989
85°	704	844	985

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3719 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	366.8	4.7
10°-20°	1006.7	13.0
20°-30°	1393.7	18.0
30°-40°	1486.1	19.2
40°-50°	1355.8	17.5
50°-60°	1062.1	13.7
60°-70°	692.2	8.9
70°-80°	306.7	4.0
80°-90°	65.9	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°	2767.2	35.8
0°-40°	4253.3	55.0
0°-60°	6671.2	86.2
0°-90°	7736.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7736.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3941	3941	3941	3941	3941	
5°	3872	3868	3868	3863	3863	368
15°	3622	3622	3585	3549	3535	1018
25°	3139	3121	3070	2961	2879	1441
35°	2547	2528	2405	2223	2168	1592
45°	1954	1913	1749	1604	1540	1505
55°	1358	1317	1194	1052	998	1218
65°	806	761	688	702	583	795
75°	323	301	282	269	296	347
85°	46	50	55	59	64	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3940.6	3940.6	3940.6	3940.6	3940.6
2.5°	3913.3	3913.3	3913.3	3908.7	3908.7
5°	3872.3	3867.7	3867.7	3863.2	3863.2
7.5°	3840.4	3835.8	3831.3	3826.7	3817.6
10°	3794.8	3794.8	3790.3	3767.5	3762.9
12.5°	3721.9	3717.4	3699.2	3667.3	3658.2
15°	3621.7	3621.7	3585.3	3548.8	3535.2
17.5°	3512.4	3507.8	3462.3	3425.8	3407.6
20°	3393.9	3384.8	3339.3	3280.0	3248.2
22.5°	3261.8	3261.8	3207.2	3129.7	3097.8
25°	3138.8	3120.6	3070.5	2961.2	2879.2
27.5°	2997.6	2970.3	2915.6	2760.7	2665.0
30°	2842.7	2829.0	2751.6	2551.1	2478.3
32.5°	2696.9	2674.2	2592.2	2382.6	2323.4
35°	2546.6	2528.4	2405.4	2223.1	2168.5
37.5°	2396.3	2373.5	2218.6	2072.8	2004.5
40°	2245.9	2218.6	2050.0	1917.9	1845.0
42.5°	2104.7	2068.3	1904.3	1763.0	1681.0
45°	1954.4	1913.4	1749.4	1603.6	1539.8
47.5°	1804.0	1767.6	1617.2	1466.9	1394.0
50°	1644.6	1612.7	1476.0	1325.7	1248.2
52.5°	1512.5	1462.4	1330.2	1179.9	1116.1
55°	1357.6	1316.6	1193.6	1052.3	997.7
57.5°	1216.4	1175.4	1061.5	929.3	883.8
60°	1084.2	1025.0	929.3	815.5	779.0
62.5°	938.5	892.9	810.9	715.2	760.8
65°	806.3	760.8	687.9	701.6	583.1
67.5°	660.6	637.8	574.0	510.2	492.0
70°	537.6	510.2	487.5	419.1	400.9
72.5°	428.2	400.9	369.0	332.6	318.9
75°	323.4	300.7	282.4	268.8	296.1
77.5°	223.2	214.1	200.4	186.8	182.2
80°	145.8	141.2	136.7	132.1	127.6
82.5°	86.6	86.6	86.6	86.6	86.6
85°	45.6	50.1	54.7	59.2	63.8
87.5°	27.3	27.3	31.9	36.4	41.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)