

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: P563912

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563912
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-81-88-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7935.0 lumens
Efficiency: N/A
Efficacy: 84.8 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

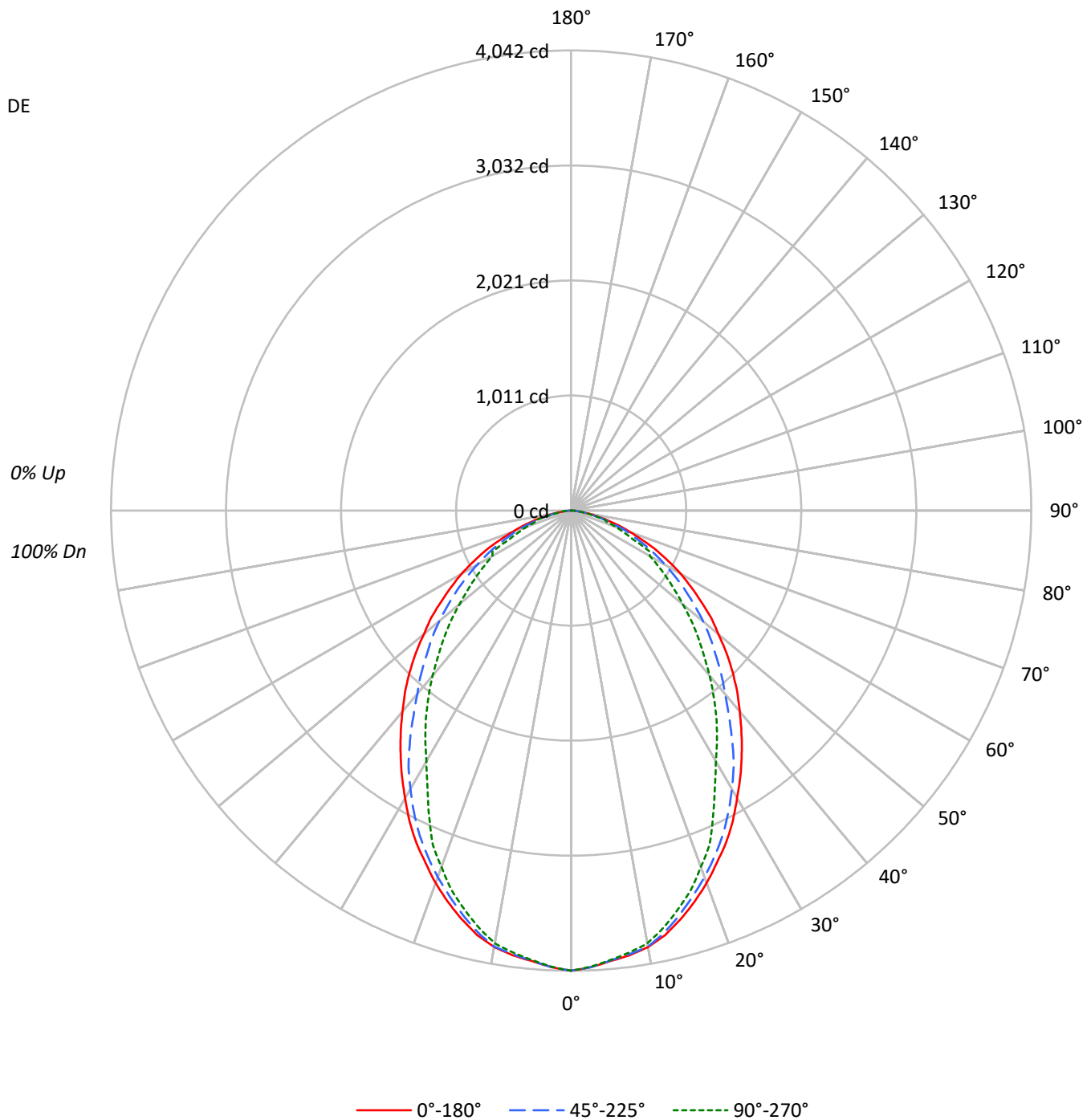
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5438	5438	5438
5°	5365	5358	5352
10°	5318	5312	5273
15°	5175	5123	5051
20°	4985	4904	4770
25°	4780	4676	4384
30°	4530	4385	3949
35°	4290	4052	3654
40°	4046	3693	3324
45°	3814	3414	3005
50°	3531	3169	2680
55°	3267	2872	2400
60°	2993	2565	2150
65°	2633	2246	1904
70°	2169	1967	1618
75°	1725	1506	1579
80°	1158	1086	1013
85°	721	866	1010

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3814 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	376.3	4.7
10°-20°	1032.6	13.0
20°-30°	1429.6	18.0
30°-40°	1524.3	19.2
40°-50°	1390.6	17.5
50°-60°	1089.5	13.7
60°-70°	710.1	8.9
70°-80°	314.6	4.0
80°-90°	67.5	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°	2838.4	35.8
0°-40°	4362.7	55.0
0°-60°	6842.8	86.2
0°-90°	7935.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7935.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4042	4042	4042	4042	4042	
5°	3972	3967	3967	3962	3962	377
15°	3715	3715	3678	3640	3626	1044
25°	3220	3201	3150	3037	2953	1478
35°	2612	2593	2467	2280	2224	1633
45°	2005	1963	1794	1645	1579	1544
55°	1392	1350	1224	1079	1023	1249
65°	827	780	706	720	598	815
75°	332	308	290	276	304	356
85°	47	51	56	61	65	65
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4042.0	4042.0	4042.0	4042.0	4042.0
2.5°	4013.9	4013.9	4013.9	4009.3	4009.3
5°	3971.9	3967.2	3967.2	3962.5	3962.5
7.5°	3939.2	3934.5	3929.8	3925.2	3915.8
10°	3892.5	3892.5	3887.8	3864.4	3859.7
12.5°	3817.7	3813.0	3794.3	3761.6	3752.3
15°	3714.9	3714.9	3677.5	3640.1	3626.1
17.5°	3602.7	3598.1	3551.3	3514.0	3495.3
20°	3481.2	3471.9	3425.2	3364.4	3331.7
22.5°	3345.7	3345.7	3289.7	3210.2	3177.5
25°	3219.6	3200.9	3149.5	3037.3	2953.2
27.5°	3074.7	3046.7	2990.6	2831.7	2733.6
30°	2915.8	2901.8	2822.4	2616.8	2542.0
32.5°	2766.3	2742.9	2658.8	2443.9	2383.1
35°	2612.1	2593.4	2467.2	2280.3	2224.3
37.5°	2457.9	2434.5	2275.7	2126.1	2056.0
40°	2303.7	2275.7	2102.8	1967.3	1892.5
42.5°	2158.8	2121.5	1953.2	1808.4	1724.3
45°	2004.6	1962.6	1794.4	1644.8	1579.4
47.5°	1850.4	1813.1	1658.8	1504.6	1429.9
50°	1686.9	1654.2	1514.0	1359.8	1280.4
52.5°	1551.4	1500.0	1364.5	1210.3	1144.8
55°	1392.5	1350.4	1224.3	1079.4	1023.3
57.5°	1247.6	1205.6	1088.8	953.3	906.5
60°	1112.1	1051.4	953.3	836.4	799.1
62.5°	962.6	915.9	831.8	733.6	780.4
65°	827.1	780.4	705.6	719.6	598.1
67.5°	677.6	654.2	588.8	523.4	504.7
70°	551.4	523.4	500.0	429.9	411.2
72.5°	439.2	411.2	378.5	341.1	327.1
75°	331.8	308.4	289.7	275.7	303.7
77.5°	229.0	219.6	205.6	191.6	186.9
80°	149.5	144.9	140.2	135.5	130.8
82.5°	88.8	88.8	88.8	88.8	88.8
85°	46.7	51.4	56.1	60.7	65.4
87.5°	28.0	28.0	32.7	37.4	42.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)