

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: P563914

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563914
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-81-94-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: 9419.0 lumens
Efficiency: N/A
Efficacy: 100.6 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

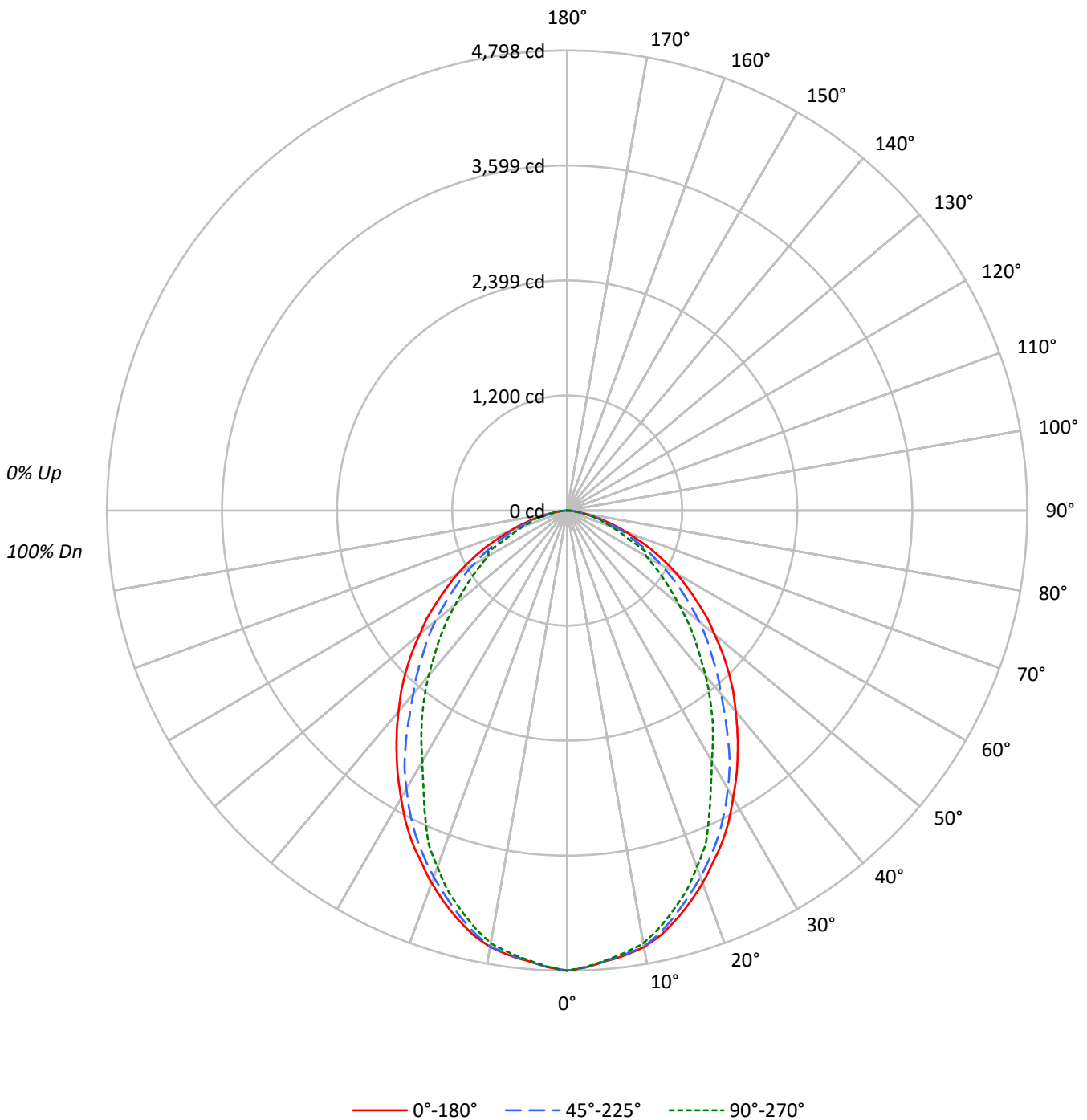
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6456	6456	6456
5°	6368	6360	6353
10°	6313	6305	6260
15°	6142	6081	5996
20°	5917	5821	5663
25°	5674	5550	5204
30°	5377	5205	4688
35°	5093	4811	4337
40°	4803	4384	3946
45°	4528	4053	3567
50°	4191	3762	3181
55°	3877	3409	2849
60°	3552	3045	2552
65°	3126	2667	2260
70°	2575	2335	1920
75°	2047	1788	1874
80°	1375	1289	1203
85°	857	1028	1200

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4528 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	446.6	4.7
10°-20°	1225.7	13.0
20°-30°	1696.9	18.0
30°-40°	1809.4	19.2
40°-50°	1650.7	17.5
50°-60°	1293.2	13.7
60°-70°	842.8	8.9
70°-80°	373.4	4.0
80°-90°	80.2	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°	3369.3	35.8
0°-40°	5178.7	55.0
0°-60°	8122.6	86.2
0°-90°	9419.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9419.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4798	4798	4798	4798	4798	
5°	4715	4709	4709	4704	4704	448
15°	4410	4410	4365	4321	4304	1240
25°	3822	3800	3738	3605	3506	1755
35°	3101	3078	2929	2707	2640	1938
45°	2380	2330	2130	1952	1875	1833
55°	1653	1603	1453	1281	1215	1483
65°	982	926	838	854	710	968
75°	394	366	344	327	360	422
85°	56	61	67	72	78	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4797.9	4797.9	4797.9	4797.9	4797.9
2.5°	4764.6	4764.6	4764.6	4759.1	4759.1
5°	4714.7	4709.2	4709.2	4703.6	4703.6
7.5°	4675.9	4670.3	4664.8	4659.2	4648.2
10°	4620.4	4620.4	4614.9	4587.1	4581.6
12.5°	4531.7	4526.1	4503.9	4465.1	4454.0
15°	4409.6	4409.6	4365.3	4320.9	4304.3
17.5°	4276.5	4271.0	4215.5	4171.1	4148.9
20°	4132.3	4121.2	4065.7	3993.6	3954.8
22.5°	3971.5	3971.5	3904.9	3810.6	3771.8
25°	3821.7	3799.5	3738.5	3605.4	3505.5
27.5°	3649.7	3616.5	3549.9	3361.3	3244.8
30°	3461.2	3444.5	3350.2	3106.2	3017.4
32.5°	3283.7	3255.9	3156.1	2900.9	2828.8
35°	3100.6	3078.4	2928.7	2706.8	2640.2
37.5°	2917.6	2889.8	2701.3	2523.8	2440.6
40°	2734.5	2701.3	2496.0	2335.2	2246.4
42.5°	2562.6	2518.2	2318.5	2146.6	2046.7
45°	2379.5	2329.6	2129.9	1952.4	1874.8
47.5°	2196.5	2152.1	1969.1	1786.0	1697.3
50°	2002.4	1963.5	1797.1	1614.1	1519.8
52.5°	1841.5	1780.5	1619.6	1436.6	1358.9
55°	1652.9	1603.0	1453.2	1281.3	1214.7
57.5°	1481.0	1431.1	1292.4	1131.5	1076.1
60°	1320.1	1248.0	1131.5	992.9	948.5
62.5°	1142.6	1087.2	987.3	870.8	926.3
65°	981.8	926.3	837.6	854.2	710.0
67.5°	804.3	776.5	698.9	621.2	599.0
70°	654.5	621.2	593.5	510.3	488.1
72.5°	521.4	488.1	449.3	404.9	388.3
75°	393.8	366.1	343.9	327.3	360.5
77.5°	271.8	260.7	244.1	227.4	221.9
80°	177.5	171.9	166.4	160.9	155.3
82.5°	105.4	105.4	105.4	105.4	105.4
85°	55.5	61.0	66.6	72.1	77.7
87.5°	33.3	33.3	38.8	44.4	49.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)