

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: P563913

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

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563913
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
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9443.0 lumens
Efficiency: N/A
Efficacy: 100.9 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

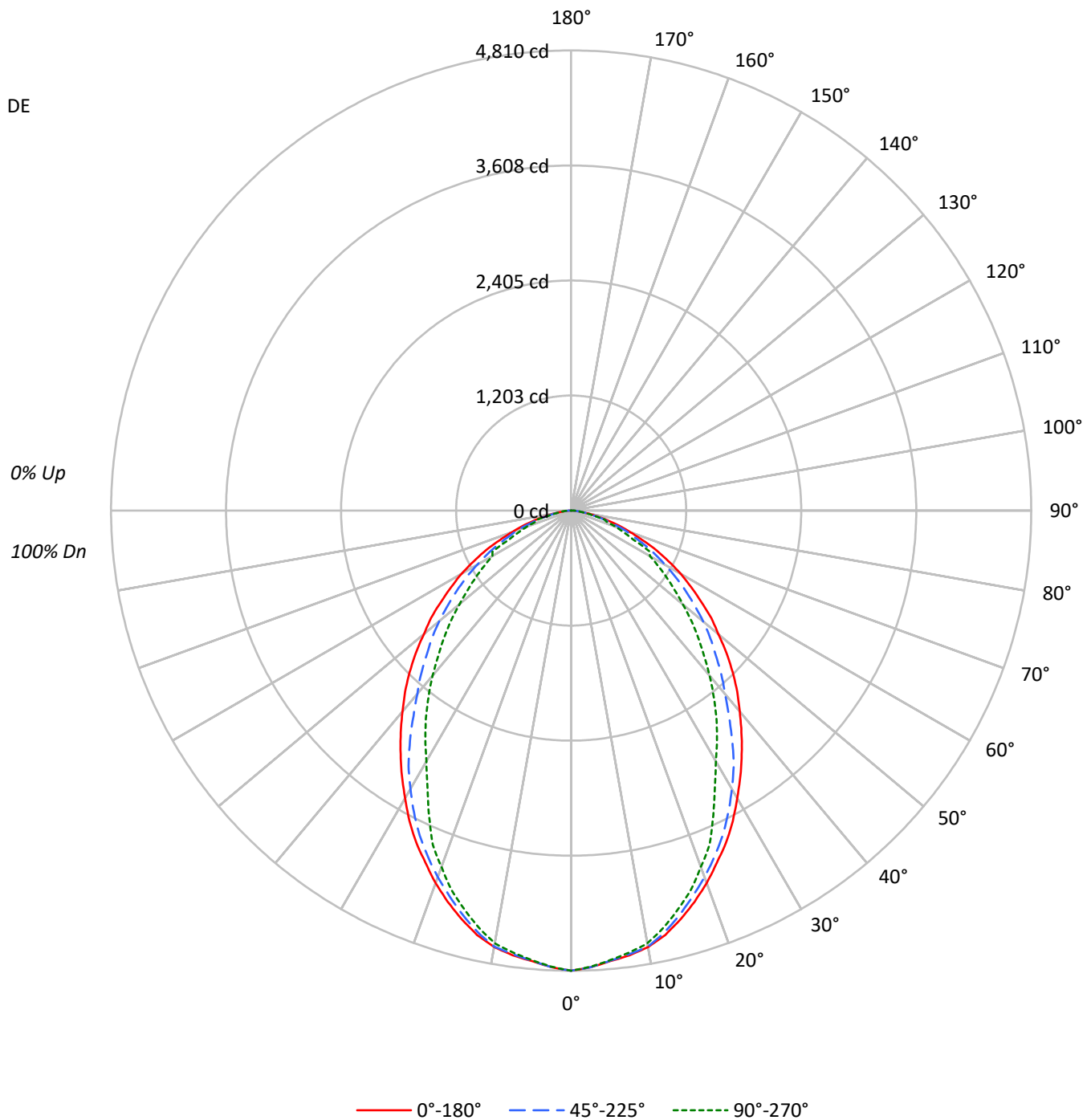
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	6472	6472	6472
5°	6384	6377	6369
10°	6329	6321	6276
15°	6158	6096	6011
20°	5932	5836	5677
25°	5688	5564	5218
30°	5391	5218	4700
35°	5106	4823	4348
40°	4815	4395	3956
45°	4539	4063	3577
50°	4202	3771	3189
55°	3887	3418	2857
60°	3562	3053	2559
65°	3134	2673	2266
70°	2581	2341	1925
75°	2052	1792	1879
80°	1378	1292	1206
85°	858	1030	1203

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4539 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	447.8	4.7
10°-20°	1228.8	13.0
20°-30°	1701.2	18.0
30°-40°	1814.0	19.2
40°-50°	1654.9	17.5
50°-60°	1296.5	13.7
60°-70°	845.0	8.9
70°-80°	374.4	4.0
80°-90°	80.4	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°	3377.8	35.8
0°-40°	5191.9	55.0
0°-60°	8143.3	86.2
0°-90°	9443.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9443.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4810	4810	4810	4810	4810	
5°	4727	4721	4721	4716	4716	449
15°	4421	4421	4376	4332	4315	1243
25°	3831	3809	3748	3615	3514	1759
35°	3108	3086	2936	2714	2647	1943
45°	2386	2336	2135	1957	1880	1838
55°	1657	1607	1457	1285	1218	1486
65°	984	929	840	856	712	970
75°	395	367	345	328	362	423
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°	4810.1	4810.1	4810.1	4810.1	4810.1
2.5°	4776.8	4776.8	4776.8	4771.2	4771.2
5°	4726.7	4721.2	4721.2	4715.6	4715.6
7.5°	4687.8	4682.2	4676.7	4671.1	4660.0
10°	4632.2	4632.2	4626.6	4598.8	4593.3
12.5°	4543.2	4537.7	4515.4	4476.5	4465.4
15°	4420.9	4420.9	4376.4	4331.9	4315.2
17.5°	4287.4	4281.9	4226.2	4181.8	4159.5
20°	4142.8	4131.7	4076.1	4003.8	3964.9
22.5°	3981.6	3981.6	3914.8	3820.3	3781.4
25°	3831.4	3809.2	3748.0	3614.6	3514.5
27.5°	3659.0	3625.7	3558.9	3369.9	3253.1
30°	3470.0	3453.3	3358.8	3114.1	3025.1
32.5°	3292.0	3264.2	3164.1	2908.3	2836.0
35°	3108.5	3086.3	2936.1	2713.7	2647.0
37.5°	2925.0	2897.2	2708.1	2530.2	2446.8
40°	2741.5	2708.1	2502.4	2341.1	2252.1
42.5°	2569.1	2524.6	2324.4	2152.1	2052.0
45°	2385.6	2335.6	2135.4	1957.4	1879.6
47.5°	2202.1	2157.6	1974.1	1790.6	1701.6
50°	2007.5	1968.5	1801.7	1618.2	1523.7
52.5°	1846.2	1785.0	1623.8	1440.3	1362.4
55°	1657.1	1607.1	1456.9	1284.6	1217.8
57.5°	1484.7	1434.7	1295.7	1134.4	1078.8
60°	1323.5	1251.2	1134.4	995.4	950.9
62.5°	1145.5	1089.9	989.8	873.1	928.7
65°	984.3	928.7	839.7	856.4	711.8
67.5°	806.3	778.5	700.7	622.8	600.6
70°	656.2	622.8	595.0	511.6	489.4
72.5°	522.7	489.4	450.4	405.9	389.3
75°	394.8	367.0	344.8	328.1	361.5
77.5°	272.5	261.4	244.7	228.0	222.4
80°	177.9	172.4	166.8	161.3	155.7
82.5°	105.7	105.7	105.7	105.7	105.7
85°	55.6	61.2	66.7	72.3	77.9
87.5°	33.4	33.4	38.9	44.5	50.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)