

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: P563590

Luminaire Tested: FSR-24-4-LD4-3STD-50-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563590
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-LD4-3STD-50-UNV-81-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9319.0 lumens
Efficiency: N/A
Efficacy: 93.3 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

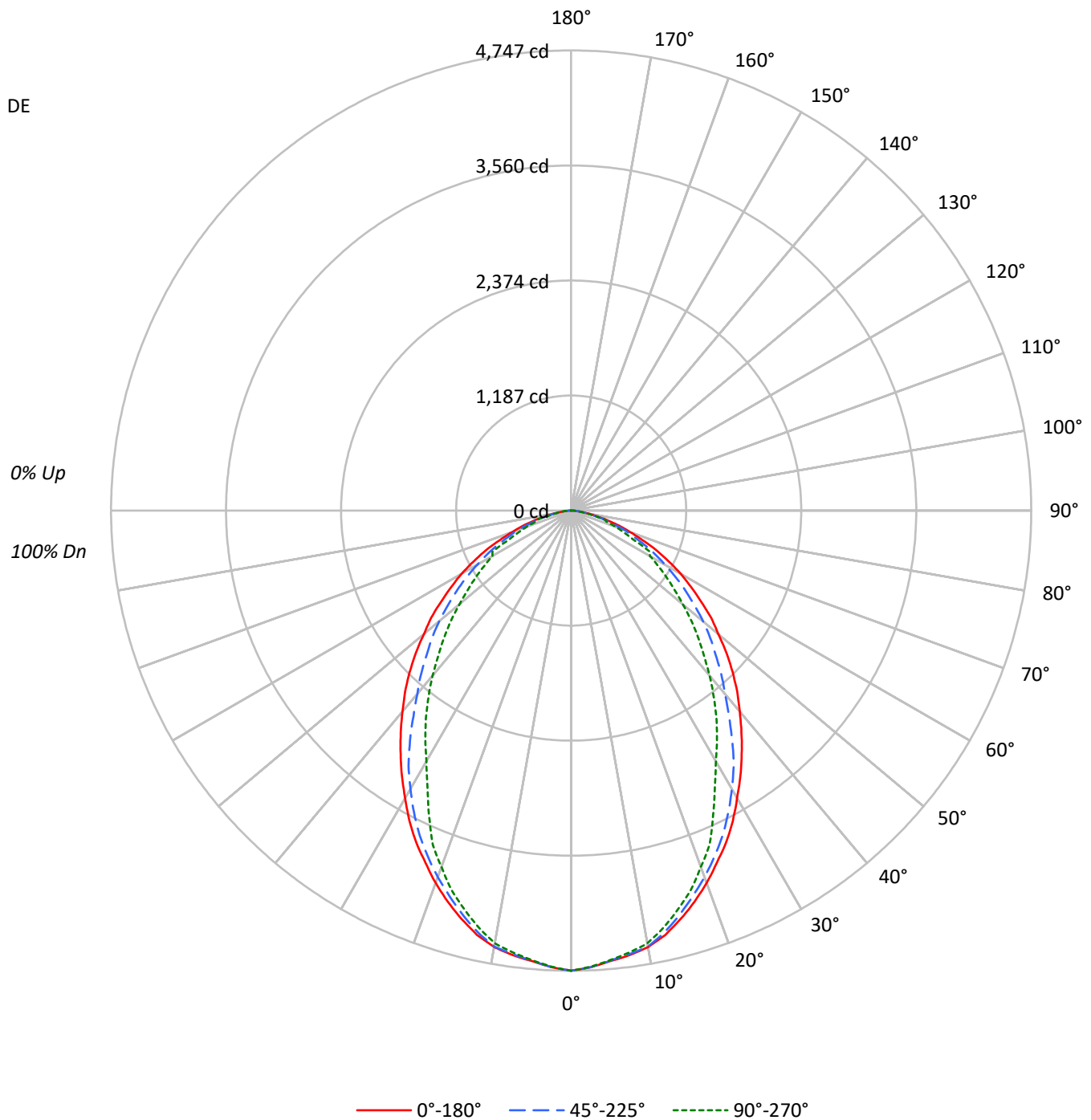
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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													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°	6387	6387	6387
5°	6300	6293	6285
10°	6246	6238	6193
15°	6077	6016	5932
20°	5854	5760	5603
25°	5613	5491	5149
30°	5320	5150	4638
35°	5039	4759	4291
40°	4752	4337	3904
45°	4480	4010	3530
50°	4147	3722	3148
55°	3836	3373	2819
60°	3515	3013	2525
65°	3092	2638	2236
70°	2548	2310	1900
75°	2025	1769	1854
80°	1361	1275	1191
85°	848	1017	1186

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4480 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	441.9	4.7
10°-20°	1212.7	13.0
20°-30°	1678.9	18.0
30°-40°	1790.2	19.2
40°-50°	1633.2	17.5
50°-60°	1279.5	13.7
60°-70°	833.9	8.9
70°-80°	369.4	4.0
80°-90°	79.3	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°	3333.5	35.8
0°-40°	5123.7	55.0
0°-60°	8036.3	86.2
0°-90°	9319.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9319.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4747	4747	4747	4747	4747	
5°	4665	4659	4659	4654	4654	443
15°	4363	4363	4319	4275	4259	1227
25°	3781	3759	3699	3567	3468	1736
35°	3068	3046	2898	2678	2612	1918
45°	2354	2305	2107	1932	1855	1813
55°	1635	1586	1438	1268	1202	1467
65°	971	916	829	845	702	957
75°	390	362	340	324	357	418
85°	55	60	66	71	77	76
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4747.0	4747.0	4747.0	4747.0	4747.0
2.5°	4714.0	4714.0	4714.0	4708.6	4708.6
5°	4664.7	4659.2	4659.2	4653.7	4653.7
7.5°	4626.2	4620.8	4615.3	4609.8	4598.8
10°	4571.4	4571.4	4565.9	4538.4	4532.9
12.5°	4483.6	4478.1	4456.1	4417.7	4406.7
15°	4362.8	4362.8	4318.9	4275.0	4258.6
17.5°	4231.1	4225.6	4170.8	4126.8	4104.9
20°	4088.4	4077.5	4022.6	3951.2	3912.8
22.5°	3929.3	3929.3	3863.4	3770.1	3731.7
25°	3781.1	3759.2	3698.8	3567.1	3468.3
27.5°	3611.0	3578.1	3512.2	3325.6	3210.4
30°	3424.4	3407.9	3314.7	3073.2	2985.4
32.5°	3248.8	3221.4	3122.6	2870.1	2798.8
35°	3067.7	3045.7	2897.6	2678.1	2612.2
37.5°	2886.6	2859.2	2672.6	2497.0	2414.6
40°	2705.5	2672.6	2469.5	2310.4	2222.6
42.5°	2535.4	2491.5	2293.9	2123.8	2025.0
45°	2354.3	2304.9	2107.3	1931.7	1854.9
47.5°	2173.2	2129.3	1948.2	1767.1	1679.3
50°	1981.1	1942.7	1778.1	1597.0	1503.7
52.5°	1822.0	1761.6	1602.4	1421.3	1344.5
55°	1635.4	1586.0	1437.8	1267.7	1201.8
57.5°	1465.3	1415.9	1278.7	1119.5	1064.6
60°	1306.1	1234.8	1119.5	982.3	938.4
62.5°	1130.5	1075.6	976.8	861.6	916.5
65°	971.3	916.5	828.7	845.1	702.4
67.5°	795.7	768.3	691.5	614.6	592.7
70°	647.6	614.6	587.2	504.9	482.9
72.5°	515.9	482.9	444.5	400.6	384.1
75°	389.6	362.2	340.2	323.8	356.7
77.5°	268.9	257.9	241.5	225.0	219.5
80°	175.6	170.1	164.6	159.1	153.7
82.5°	104.3	104.3	104.3	104.3	104.3
85°	54.9	60.4	65.9	71.3	76.8
87.5°	32.9	32.9	38.4	43.9	49.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)