

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: P563478

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-82-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563478
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-35-UNV-82-87-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8542.0 lumens
Efficiency: N/A
Efficacy: 85.5 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

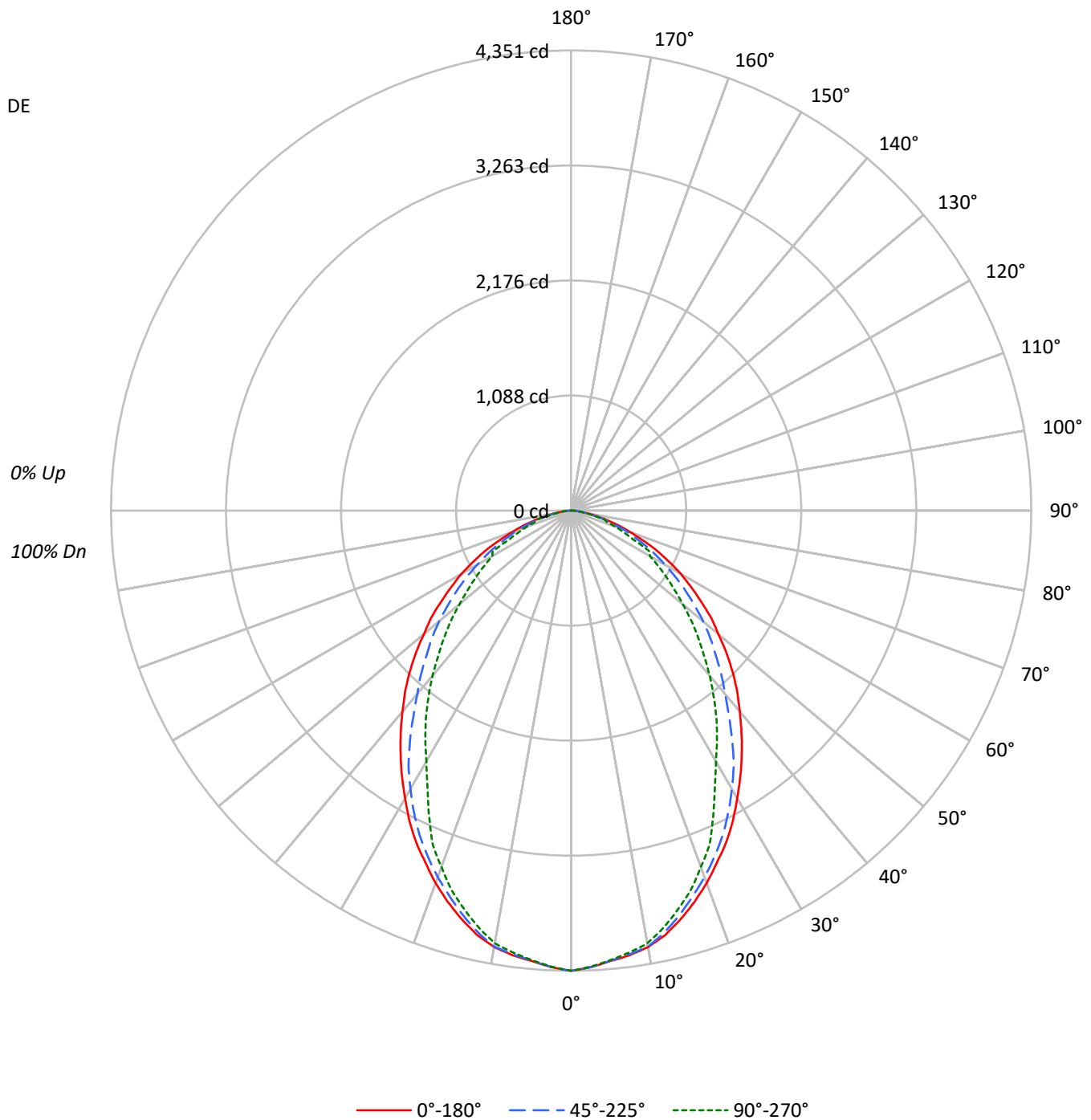
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5854	5854	5854
5°	5775	5768	5761
10°	5725	5718	5677
15°	5571	5514	5437
20°	5366	5279	5135
25°	5145	5033	4720
30°	4877	4720	4252
35°	4619	4363	3933
40°	4356	3976	3578
45°	4106	3675	3235
50°	3801	3412	2885
55°	3516	3092	2584
60°	3222	2761	2315
65°	2835	2418	2050
70°	2335	2117	1742
75°	1856	1621	1700
80°	1247	1169	1091
85°	777	932	1087

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4106 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	405.0	4.7
10°-20°	1111.6	13.0
20°-30°	1538.9	18.0
30°-40°	1640.9	19.2
40°-50°	1497.0	17.5
50°-60°	1172.8	13.7
60°-70°	764.4	8.9
70°-80°	338.6	4.0
80°-90°	72.7	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°	3055.5	35.8
0°-40°	4696.5	55.0
0°-60°	7366.3	86.2
0°-90°	8542.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8542.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4351	4351	4351	4351	4351	
5°	4276	4271	4271	4266	4266	406
15°	3999	3999	3959	3919	3904	1124
25°	3466	3446	3390	3270	3179	1591
35°	2812	2792	2656	2455	2394	1758
45°	2158	2113	1932	1771	1700	1662
55°	1499	1454	1318	1162	1102	1345
65°	890	840	760	775	644	877
75°	357	332	312	297	327	383
85°	50	55	60	65	70	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4351.2	4351.2	4351.2	4351.2	4351.2
2.5°	4321.0	4321.0	4321.0	4316.0	4316.0
5°	4275.7	4270.7	4270.7	4265.7	4265.7
7.5°	4240.5	4235.5	4230.5	4225.4	4215.4
10°	4190.2	4190.2	4185.2	4160.0	4155.0
12.5°	4109.7	4104.7	4084.6	4049.4	4039.3
15°	3999.1	3999.1	3958.8	3918.6	3903.5
17.5°	3878.3	3873.3	3823.0	3782.8	3762.6
20°	3747.5	3737.5	3687.2	3621.8	3586.6
22.5°	3601.7	3601.7	3541.3	3455.8	3420.6
25°	3465.9	3445.7	3390.4	3269.7	3179.1
27.5°	3309.9	3279.7	3219.4	3048.3	2942.7
30°	3138.9	3123.8	3038.3	2816.9	2736.5
32.5°	2977.9	2952.8	2862.2	2630.8	2565.4
35°	2811.9	2791.8	2656.0	2454.8	2394.4
37.5°	2645.9	2620.8	2449.7	2288.8	2213.3
40°	2479.9	2449.7	2263.6	2117.7	2037.3
42.5°	2324.0	2283.7	2102.7	1946.7	1856.2
45°	2158.0	2112.7	1931.6	1770.7	1700.2
47.5°	1992.0	1951.7	1785.7	1619.7	1539.3
50°	1815.9	1780.7	1629.8	1463.8	1378.3
52.5°	1670.0	1614.7	1468.8	1302.8	1232.4
55°	1499.0	1453.7	1317.9	1162.0	1101.6
57.5°	1343.1	1297.8	1172.1	1026.2	975.9
60°	1197.2	1131.8	1026.2	900.4	860.2
62.5°	1036.2	985.9	895.4	789.8	840.1
65°	890.4	840.1	759.6	774.7	643.9
67.5°	729.4	704.2	633.8	563.4	543.3
70°	593.6	563.4	538.2	462.8	442.7
72.5°	472.8	442.7	407.5	367.2	352.1
75°	357.1	332.0	311.9	296.8	327.0
77.5°	246.5	236.4	221.3	206.2	201.2
80°	161.0	155.9	150.9	145.9	140.8
82.5°	95.6	95.6	95.6	95.6	95.6
85°	50.3	55.3	60.4	65.4	70.4
87.5°	30.2	30.2	35.2	40.2	45.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)