

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: P563138

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563138
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-LD4-3HI-40-UNV-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11347.0 lumens
Efficiency: N/A
Efficacy: 87.6 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

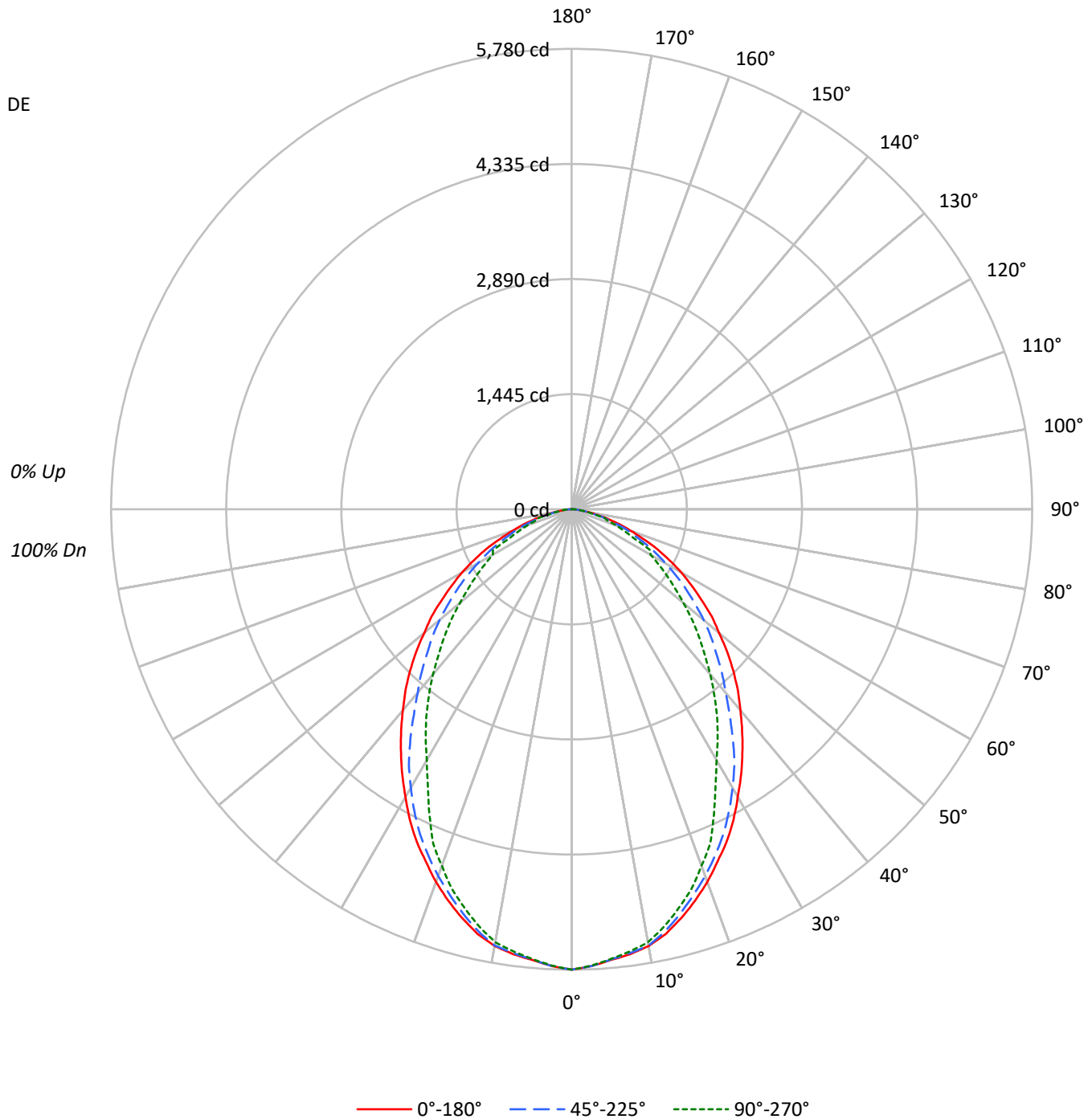
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	7777	7777	7777
5°	7671	7662	7653
10°	7605	7596	7541
15°	7400	7325	7223
20°	7128	7013	6822
25°	6835	6686	6270
30°	6478	6270	5648
35°	6135	5795	5224
40°	5786	5281	4753
45°	5455	4882	4297
50°	5049	4532	3832
55°	4671	4107	3433
60°	4279	3668	3075
65°	3765	3212	2723
70°	3102	2813	2313
75°	2466	2154	2258
80°	1657	1554	1450
85°	1031	1238	1443

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5455 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	538.0	4.7
10°-20°	1476.6	13.0
20°-30°	2044.3	18.0
30°-40°	2179.8	19.2
40°-50°	1988.6	17.5
50°-60°	1557.9	13.7
60°-70°	1015.4	8.9
70°-80°	449.8	4.0
80°-90°	96.6	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°	4058.9	35.8
0°-40°	6238.7	55.0
0°-60°	9785.2	86.2
0°-90°	11347.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11347.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5780	5780	5780	5780	5780	
5°	5680	5673	5673	5666	5666	539
15°	5312	5312	5259	5205	5185	1493
25°	4604	4577	4504	4343	4223	2114
35°	3735	3709	3528	3261	3181	2335
45°	2867	2806	2566	2352	2258	2208
55°	1991	1931	1751	1544	1463	1786
65°	1183	1116	1009	1029	855	1166
75°	474	441	414	394	434	508
85°	67	74	80	87	94	93
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5780.0	5780.0	5780.0	5780.0	5780.0
2.5°	5739.9	5739.9	5739.9	5733.2	5733.2
5°	5679.8	5673.1	5673.1	5666.4	5666.4
7.5°	5633.0	5626.3	5619.6	5613.0	5599.6
10°	5566.2	5566.2	5559.5	5526.1	5519.4
12.5°	5459.3	5452.6	5425.9	5379.1	5365.7
15°	5312.3	5312.3	5258.8	5205.4	5185.3
17.5°	5151.9	5145.2	5078.4	5024.9	4998.2
20°	4978.2	4964.8	4898.0	4811.1	4764.3
22.5°	4784.4	4784.4	4704.2	4590.6	4543.8
25°	4604.0	4577.2	4503.7	4343.4	4223.1
27.5°	4396.8	4356.7	4276.5	4049.3	3909.0
30°	4169.6	4149.6	4036.0	3742.0	3635.1
32.5°	3955.8	3922.4	3802.1	3494.7	3407.9
35°	3735.3	3708.6	3528.1	3260.9	3180.7
37.5°	3514.8	3481.4	3254.2	3040.4	2940.1
40°	3294.3	3254.2	3006.9	2813.2	2706.2
42.5°	3087.1	3033.7	2793.1	2586.0	2465.7
45°	2866.6	2806.5	2565.9	2352.1	2258.5
47.5°	2646.1	2592.7	2372.1	2151.6	2044.7
50°	2412.2	2365.5	2165.0	1944.5	1830.9
52.5°	2218.5	2145.0	1951.2	1730.7	1637.1
55°	1991.3	1931.1	1750.7	1543.6	1463.4
57.5°	1784.1	1724.0	1556.9	1363.1	1296.3
60°	1590.3	1503.5	1363.1	1196.1	1142.6
62.5°	1376.5	1309.7	1189.4	1049.1	1115.9
65°	1182.7	1115.9	1009.0	1029.0	855.3
67.5°	968.9	935.5	841.9	748.4	721.7
70°	788.5	748.4	715.0	614.8	588.0
72.5°	628.1	588.0	541.2	487.8	467.7
75°	474.4	441.0	414.3	394.2	434.3
77.5°	327.4	314.1	294.0	274.0	267.3
80°	213.8	207.1	200.5	193.8	187.1
82.5°	127.0	127.0	127.0	127.0	127.0
85°	66.8	73.5	80.2	86.9	93.5
87.5°	40.1	40.1	46.8	53.5	60.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)