

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: P564187

Luminaire Tested: FSR-24-4-LD4-4STD-50-UNV-82-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564187
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-LD4-4STD-50-UNV-82-94-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14945.0 lumens
Efficiency: N/A
Efficacy: 112.2 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

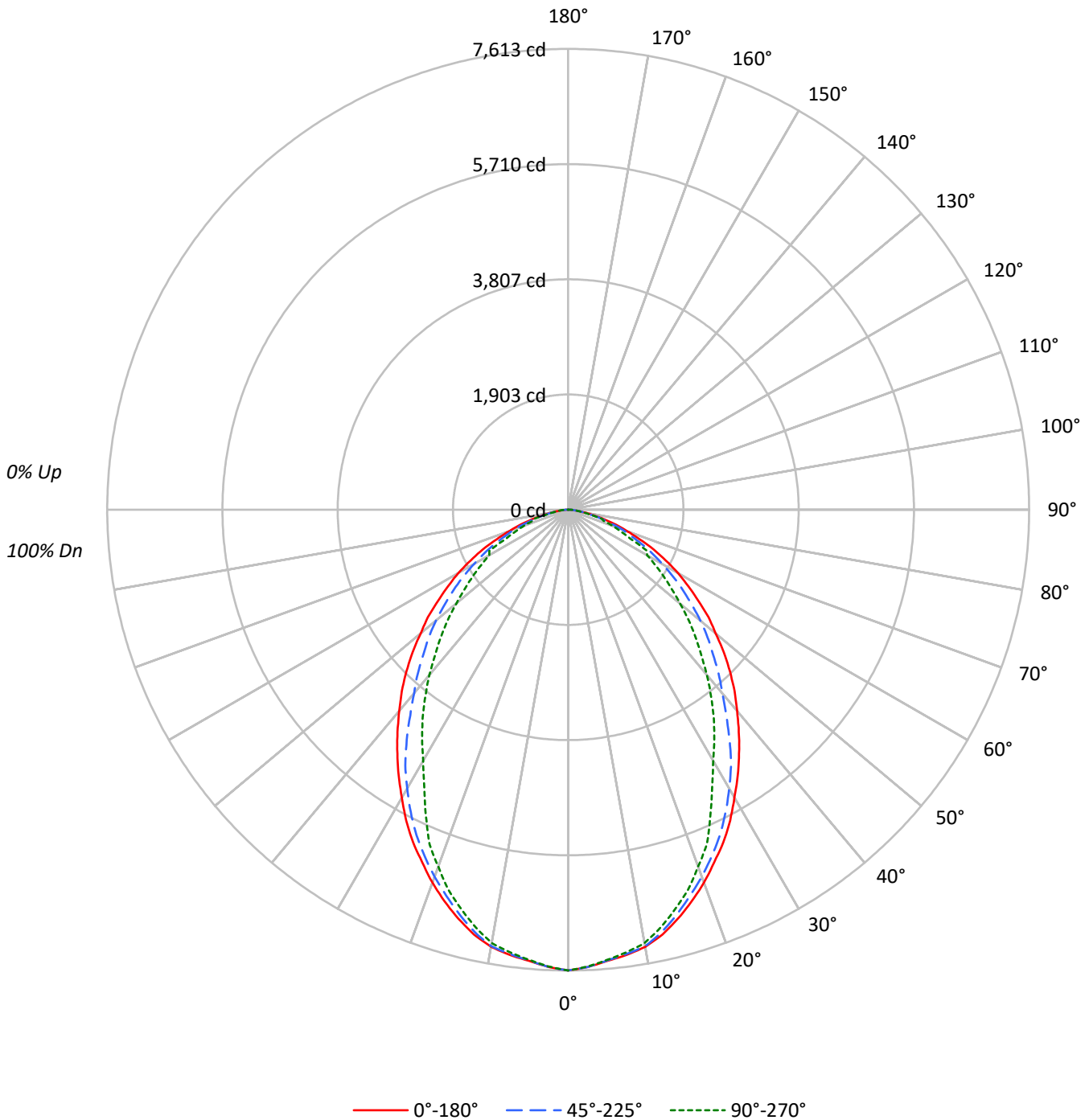
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10243	10243	10243
5°	10104	10092	10080
10°	10016	10004	9932
15°	9746	9648	9513
20°	9388	9237	8985
25°	9002	8806	8258
30°	8532	8259	7438
35°	8081	7633	6881
40°	7621	6956	6261
45°	7184	6431	5660
50°	6650	5969	5048
55°	6152	5409	4521
60°	5637	4831	4050
65°	4960	4231	3586
70°	4085	3705	3047
75°	3249	2837	2974
80°	2182	2046	1909
85°	1359	1630	1902

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7184 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	708.6	4.7
10°-20°	1944.8	13.0
20°-30°	2692.5	18.0
30°-40°	2871.0	19.2
40°-50°	2619.2	17.5
50°-60°	2051.9	13.7
60°-70°	1337.3	8.9
70°-80°	592.5	4.0
80°-90°	127.2	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°	5345.9	35.8
0°-40°	8216.9	55.0
0°-60°	12888.0	86.2
0°-90°	14945.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14945.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7613	7613	7613	7613	7613	
5°	7481	7472	7472	7463	7463	710
15°	6997	6997	6926	6856	6830	1967
25°	6064	6029	5932	5721	5562	2784
35°	4920	4884	4647	4295	4189	3076
45°	3776	3696	3380	3098	2975	2908
55°	2623	2544	2306	2033	1927	2352
65°	1558	1470	1329	1355	1126	1535
75°	625	581	546	519	572	670
85°	88	97	106	114	123	122
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7612.8	7612.8	7612.8	7612.8	7612.8
2.5°	7560.0	7560.0	7560.0	7551.2	7551.2
5°	7480.8	7472.0	7472.0	7463.2	7463.2
7.5°	7419.2	7410.4	7401.6	7392.8	7375.2
10°	7331.2	7331.2	7322.4	7278.3	7269.5
12.5°	7190.3	7181.5	7146.3	7084.7	7067.1
15°	6996.7	6996.7	6926.3	6855.9	6829.5
17.5°	6785.5	6776.7	6688.7	6618.3	6583.1
20°	6556.7	6539.1	6451.1	6336.7	6275.0
22.5°	6301.4	6301.4	6195.8	6046.2	5984.6
25°	6063.8	6028.6	5931.8	5720.6	5562.2
27.5°	5791.0	5738.2	5632.6	5333.3	5148.5
30°	5491.8	5465.4	5315.7	4928.5	4787.7
32.5°	5210.1	5166.1	5007.7	4602.9	4488.5
35°	4919.7	4884.5	4646.9	4294.8	4189.2
37.5°	4629.3	4585.3	4286.0	4004.4	3872.4
40°	4338.8	4286.0	3960.4	3705.2	3564.4
42.5°	4066.0	3995.6	3678.8	3406.0	3247.5
45°	3775.6	3696.4	3379.5	3097.9	2974.7
47.5°	3485.2	3414.8	3124.3	2833.9	2693.1
50°	3177.1	3115.5	2851.5	2561.1	2411.4
52.5°	2921.9	2825.1	2569.9	2279.4	2156.2
55°	2622.7	2543.5	2305.8	2033.0	1927.4
57.5°	2349.8	2270.6	2050.6	1795.4	1707.4
60°	2094.6	1980.2	1795.4	1575.4	1505.0
62.5°	1813.0	1725.0	1566.6	1381.7	1469.8
65°	1557.8	1469.8	1328.9	1355.3	1126.5
67.5°	1276.1	1232.1	1108.9	985.7	950.5
70°	1038.5	985.7	941.7	809.7	774.5
72.5°	827.3	774.5	712.9	642.5	616.1
75°	624.9	580.9	545.7	519.3	572.1
77.5°	431.2	413.6	387.2	360.8	352.0
80°	281.6	272.8	264.0	255.2	246.4
82.5°	167.2	167.2	167.2	167.2	167.2
85°	88.0	96.8	105.6	114.4	123.2
87.5°	52.8	52.8	61.6	70.4	79.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)