

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: P564043

Luminaire Tested: FSR-24-4-LD4-4STD-35-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564043
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-35-UNV-81-94-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14863.0 lumens
Efficiency: N/A
Efficacy: 111.6 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

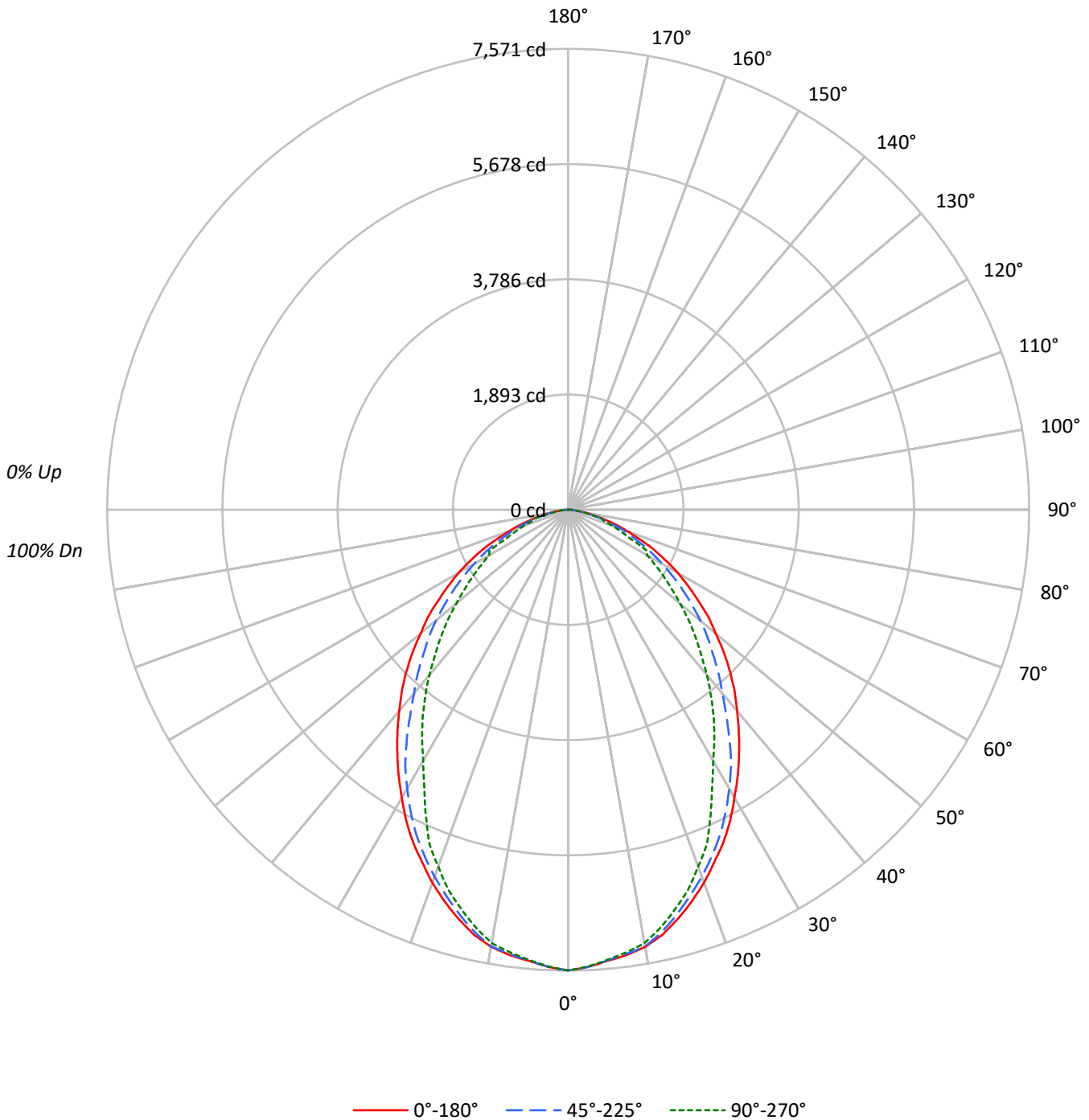
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	10187	10187	10187
5°	10048	10037	10025
10°	9961	9949	9878
15°	9693	9595	9461
20°	9337	9186	8936
25°	8953	8758	8212
30°	8485	8213	7397
35°	8036	7591	6843
40°	7579	6918	6226
45°	7145	6395	5629
50°	6614	5936	5020
55°	6119	5379	4496
60°	5606	4805	4028
65°	4932	4208	3567
70°	4063	3684	3030
75°	3230	2821	2957
80°	2170	2035	1899
85°	1351	1621	1891

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7145 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	704.8	4.7
10°-20°	1934.2	13.0
20°-30°	2677.7	18.0
30°-40°	2855.2	19.2
40°-50°	2604.8	17.5
50°-60°	2040.6	13.7
60°-70°	1330.0	8.9
70°-80°	589.2	4.0
80°-90°	126.5	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°	5316.6	35.8
0°-40°	8171.8	55.0
0°-60°	12817.3	86.2
0°-90°	14863.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14863.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7571	7571	7571	7571	7571	
5°	7440	7431	7431	7422	7422	706
15°	6958	6958	6888	6818	6792	1956
25°	6031	5996	5899	5689	5532	2769
35°	4893	4858	4621	4271	4166	3059
45°	3755	3676	3361	3081	2958	2892
55°	2608	2530	2293	2022	1917	2339
65°	1549	1462	1322	1348	1120	1527
75°	621	578	543	516	569	666
85°	88	96	105	114	122	121
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7571.0	7571.0	7571.0	7571.0	7571.0
2.5°	7518.5	7518.5	7518.5	7509.7	7509.7
5°	7439.7	7431.0	7431.0	7422.2	7422.2
7.5°	7378.5	7369.7	7361.0	7352.2	7334.7
10°	7290.9	7290.9	7282.2	7238.4	7229.7
12.5°	7150.9	7142.1	7107.1	7045.9	7028.4
15°	6958.3	6958.3	6888.3	6818.3	6792.0
17.5°	6748.3	6739.5	6652.0	6582.0	6547.0
20°	6520.7	6503.2	6415.7	6301.9	6240.6
22.5°	6266.9	6266.9	6161.8	6013.0	5951.8
25°	6030.6	5995.5	5899.3	5689.2	5531.7
27.5°	5759.2	5706.7	5601.7	5304.1	5120.3
30°	5461.6	5435.4	5286.6	4901.5	4761.4
32.5°	5181.5	5137.8	4980.2	4577.6	4463.8
35°	4892.7	4857.7	4621.4	4271.3	4166.2
37.5°	4603.9	4560.1	4262.5	3982.4	3851.2
40°	4315.0	4262.5	3938.7	3684.9	3544.8
42.5°	4043.7	3973.7	3658.6	3387.3	3229.7
45°	3754.9	3676.1	3361.0	3080.9	2958.4
47.5°	3466.0	3396.0	3107.2	2818.3	2678.3
50°	3159.7	3098.4	2835.8	2547.0	2398.2
52.5°	2905.9	2809.6	2555.8	2266.9	2144.4
55°	2608.3	2529.5	2293.2	2021.9	1916.8
57.5°	2336.9	2258.2	2039.4	1785.5	1698.0
60°	2083.1	1969.3	1785.5	1566.7	1496.7
62.5°	1803.0	1715.5	1558.0	1374.2	1461.7
65°	1549.2	1461.7	1321.6	1347.9	1120.3
67.5°	1269.1	1225.4	1102.8	980.3	945.3
70°	1032.8	980.3	936.5	805.2	770.2
72.5°	822.7	770.2	709.0	638.9	612.7
75°	621.4	577.7	542.7	516.4	568.9
77.5°	428.9	411.4	385.1	358.9	350.1
80°	280.1	271.3	262.6	253.8	245.1
82.5°	166.3	166.3	166.3	166.3	166.3
85°	87.5	96.3	105.0	113.8	122.5
87.5°	52.5	52.5	61.3	70.0	78.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)