

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: P561039

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561039
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-12-4-LD4-1LO-40-UNV-81-97-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2274.0 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

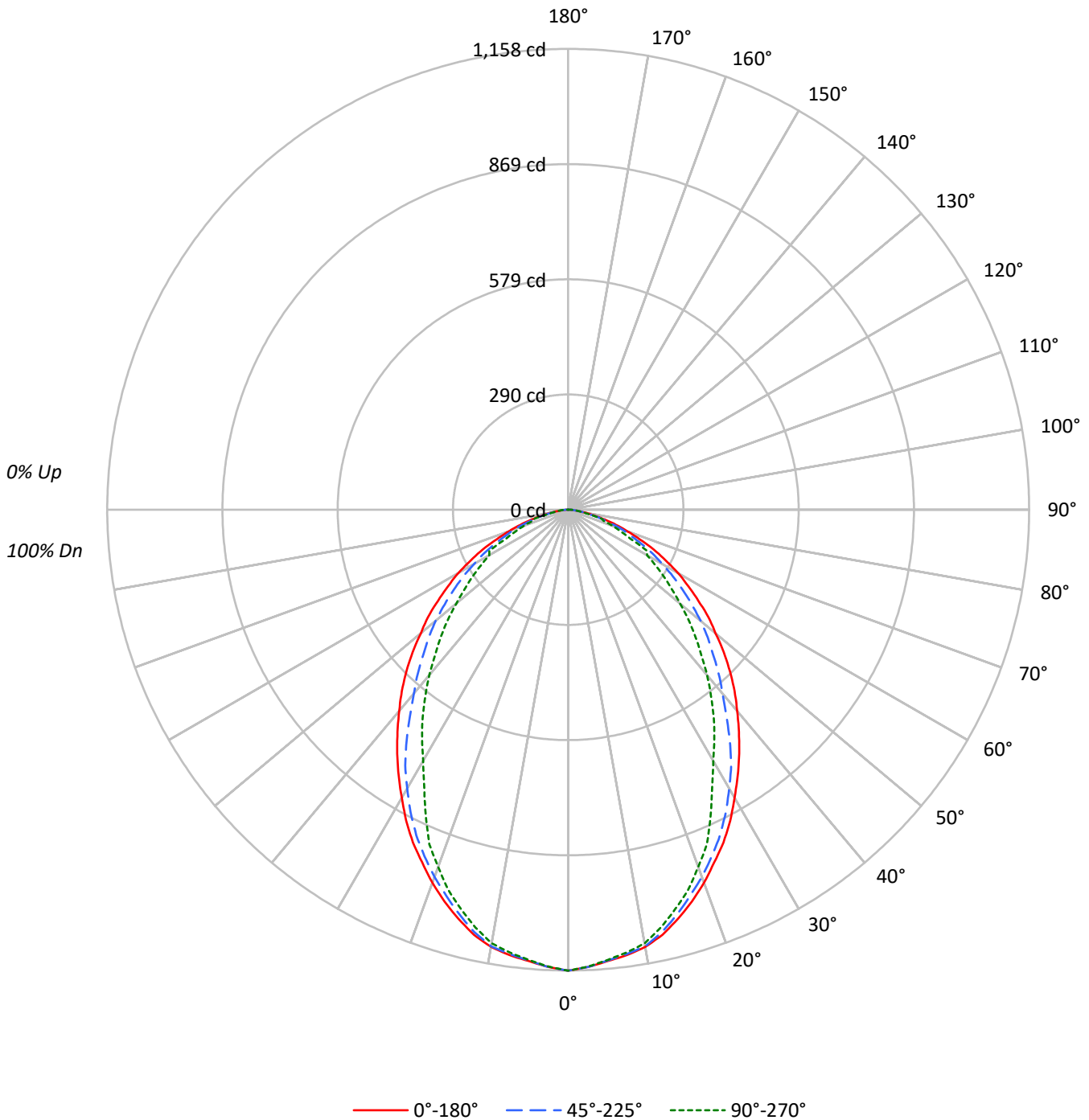
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3117	3117	3117
5°	3075	3071	3068
10°	3048	3045	3022
15°	2966	2936	2895
20°	2857	2811	2734
25°	2740	2680	2513
30°	2596	2513	2264
35°	2459	2323	2094
40°	2319	2117	1905
45°	2186	1957	1722
50°	2024	1816	1536
55°	1872	1646	1376
60°	1715	1470	1232
65°	1509	1287	1091
70°	1243	1127	927
75°	989	863	905
80°	665	623	581
85°	414	497	577

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2186 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.8	4.7
10°-20°	295.9	13.0
20°-30°	409.7	18.0
30°-40°	436.8	19.2
40°-50°	398.5	17.5
50°-60°	312.2	13.7
60°-70°	203.5	8.9
70°-80°	90.1	4.0
80°-90°	19.3	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°	813.4	35.8
0°-40°	1250.3	55.0
0°-60°	1961.0	86.2
0°-90°	2274.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2274.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1158	1158	1158	1158	1158	
5°	1138	1137	1137	1136	1136	108
15°	1065	1065	1054	1043	1039	299
25°	923	917	903	870	846	424
35°	749	743	707	654	637	468
45°	574	562	514	471	453	443
55°	399	387	351	309	293	358
65°	237	224	202	206	171	234
75°	95	88	83	79	87	102
85°	13	15	16	17	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	<i>1158.3</i>	<i>1158.3</i>	<i>1158.3</i>	<i>1158.3</i>	<i>1158.3</i>
2.5°	<i>1150.3</i>	1150.3	1150.3	1149.0	1149.0
5°	<i>1138.3</i>	1136.9	1136.9	1135.6	1135.6
7.5°	<i>1128.9</i>	1127.5	1126.2	1124.9	1122.2
10°	<i>1115.5</i>	1115.5	1114.2	1107.5	1106.1
12.5°	<i>1094.1</i>	1092.7	1087.4	1078.0	1075.3
15°	<i>1064.6</i>	1064.6	1053.9	1043.2	1039.2
17.5°	<i>1032.5</i>	1031.1	1017.7	1007.0	1001.7
20°	<i>997.6</i>	995.0	981.6	964.2	954.8
22.5°	<i>958.8</i>	958.8	942.7	920.0	910.6
25°	<i>922.7</i>	917.3	902.6	870.4	846.3
27.5°	<i>881.1</i>	873.1	857.0	811.5	783.4
30°	<i>835.6</i>	831.6	808.8	749.9	728.5
32.5°	<i>792.8</i>	786.1	762.0	700.4	683.0
35°	<i>748.6</i>	743.2	707.1	653.5	637.4
37.5°	<i>704.4</i>	697.7	652.2	609.3	589.2
40°	<i>660.2</i>	652.2	602.6	563.8	542.3
42.5°	<i>618.7</i>	608.0	559.8	518.2	494.1
45°	<i>574.5</i>	562.4	514.2	471.4	452.6
47.5°	<i>530.3</i>	519.6	475.4	431.2	409.8
50°	<i>483.4</i>	474.1	433.9	389.7	366.9
52.5°	<i>444.6</i>	429.9	391.0	346.8	328.1
55°	<i>399.1</i>	387.0	350.9	309.3	293.3
57.5°	<i>357.5</i>	345.5	312.0	273.2	259.8
60°	<i>318.7</i>	301.3	273.2	239.7	229.0
62.5°	<i>275.9</i>	262.5	238.4	210.2	223.6
65°	<i>237.0</i>	223.6	202.2	206.2	171.4
67.5°	<i>194.2</i>	187.5	168.7	150.0	144.6
70°	<i>158.0</i>	150.0	143.3	123.2	117.8
72.5°	<i>125.9</i>	117.8	108.5	97.8	93.7
75°	<i>95.1</i>	88.4	83.0	79.0	87.0
77.5°	<i>65.6</i>	62.9	58.9	54.9	53.6
80°	<i>42.9</i>	41.5	40.2	38.8	37.5
82.5°	<i>25.4</i>	25.4	25.4	25.4	25.4
85°	<i>13.4</i>	14.7	16.1	17.4	18.7
87.5°	<i>8.0</i>	8.0	9.4	10.7	12.1
90°	<i>0.0</i>	0.0	0.0	0.0	0.0

(END OF REPORT)