

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: P561053

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561053
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-82-96-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 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: 2309.0 lumens
Efficiency: N/A
Efficacy: 98.7 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

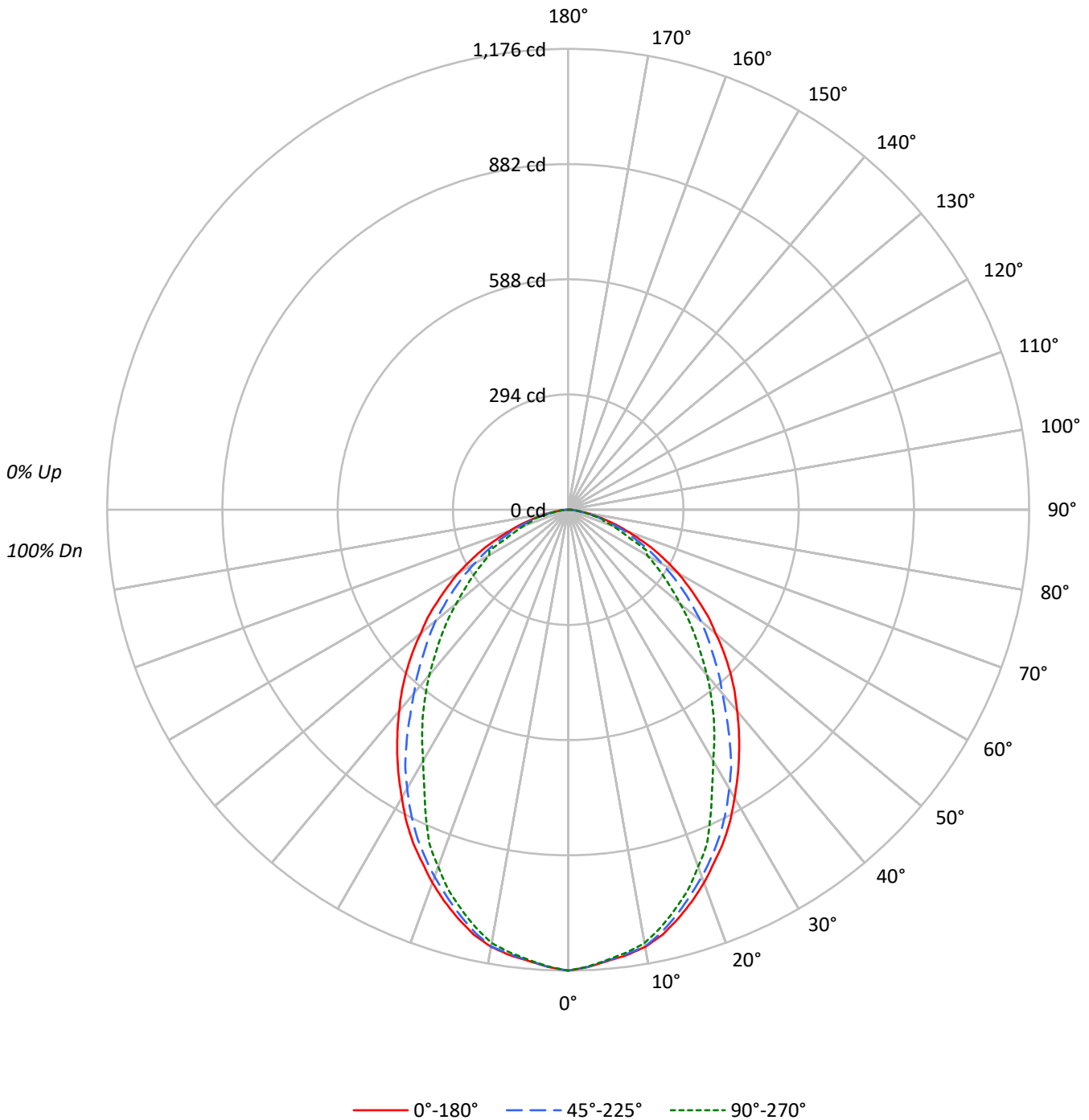
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3165	3165	3165
5°	3122	3118	3115
10°	3095	3091	3069
15°	3012	2981	2940
20°	2901	2854	2776
25°	2782	2721	2552
30°	2637	2552	2298
35°	2497	2358	2126
40°	2355	2149	1935
45°	2220	1987	1749
50°	2055	1845	1560
55°	1901	1672	1397
60°	1742	1493	1251
65°	1533	1307	1108
70°	1262	1145	942
75°	1003	876	919
80°	674	632	590
85°	420	503	587

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2220 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.5	4.7
10°-20°	300.5	13.0
20°-30°	416.0	18.0
30°-40°	443.6	19.2
40°-50°	404.7	17.5
50°-60°	317.0	13.7
60°-70°	206.6	8.9
70°-80°	91.5	4.0
80°-90°	19.7	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°	825.9	35.8
0°-40°	1269.5	55.0
0°-60°	1991.2	86.2
0°-90°	2309.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2309.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1176	1176	1176	1176	1176	
5°	1156	1154	1154	1153	1153	110
15°	1081	1081	1070	1059	1055	304
25°	937	931	916	884	859	430
35°	760	755	718	664	647	475
45°	583	571	522	479	460	449
55°	405	393	356	314	298	363
65°	241	227	205	209	174	237
75°	96	90	84	80	88	103
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1176.2	1176.2	1176.2	1176.2	1176.2
2.5°	1168.0	1168.0	1168.0	1166.7	1166.7
5°	1155.8	1154.4	1154.4	1153.1	1153.1
7.5°	1146.3	1144.9	1143.5	1142.2	1139.5
10°	1132.7	1132.7	1131.3	1124.5	1123.1
12.5°	1110.9	1109.5	1104.1	1094.6	1091.9
15°	1081.0	1081.0	1070.1	1059.2	1055.2
17.5°	1048.4	1047.0	1033.4	1022.5	1017.1
20°	1013.0	1010.3	996.7	979.0	969.5
22.5°	973.6	973.6	957.3	934.1	924.6
25°	936.9	931.4	916.5	883.8	859.4
27.5°	894.7	886.5	870.2	824.0	795.4
30°	848.5	844.4	821.3	761.5	739.7
32.5°	805.0	798.2	773.7	711.1	693.5
35°	760.1	754.7	717.9	663.6	647.2
37.5°	715.2	708.4	662.2	618.7	598.3
40°	670.4	662.2	611.9	572.4	550.7
42.5°	628.2	617.3	568.4	526.2	501.7
45°	583.3	571.1	522.1	478.6	459.6
47.5°	538.5	527.6	482.7	437.8	416.1
50°	490.9	481.3	440.6	395.7	372.6
52.5°	451.4	436.5	397.0	352.2	333.1
55°	405.2	393.0	356.3	314.1	297.8
57.5°	363.1	350.8	316.8	277.4	263.8
60°	323.6	305.9	277.4	243.4	232.5
62.5°	280.1	266.5	242.0	213.5	227.1
65°	240.7	227.1	205.3	209.4	174.0
67.5°	197.2	190.4	171.3	152.3	146.9
70°	160.4	152.3	145.5	125.1	119.7
72.5°	127.8	119.7	110.1	99.3	95.2
75°	96.5	89.7	84.3	80.2	88.4
77.5°	66.6	63.9	59.8	55.7	54.4
80°	43.5	42.2	40.8	39.4	38.1
82.5°	25.8	25.8	25.8	25.8	25.8
85°	13.6	15.0	16.3	17.7	19.0
87.5°	8.2	8.2	9.5	10.9	12.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)