

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: P561036

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561036
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-81-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1982.0 lumens
Efficiency: N/A
Efficacy: 84.7 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

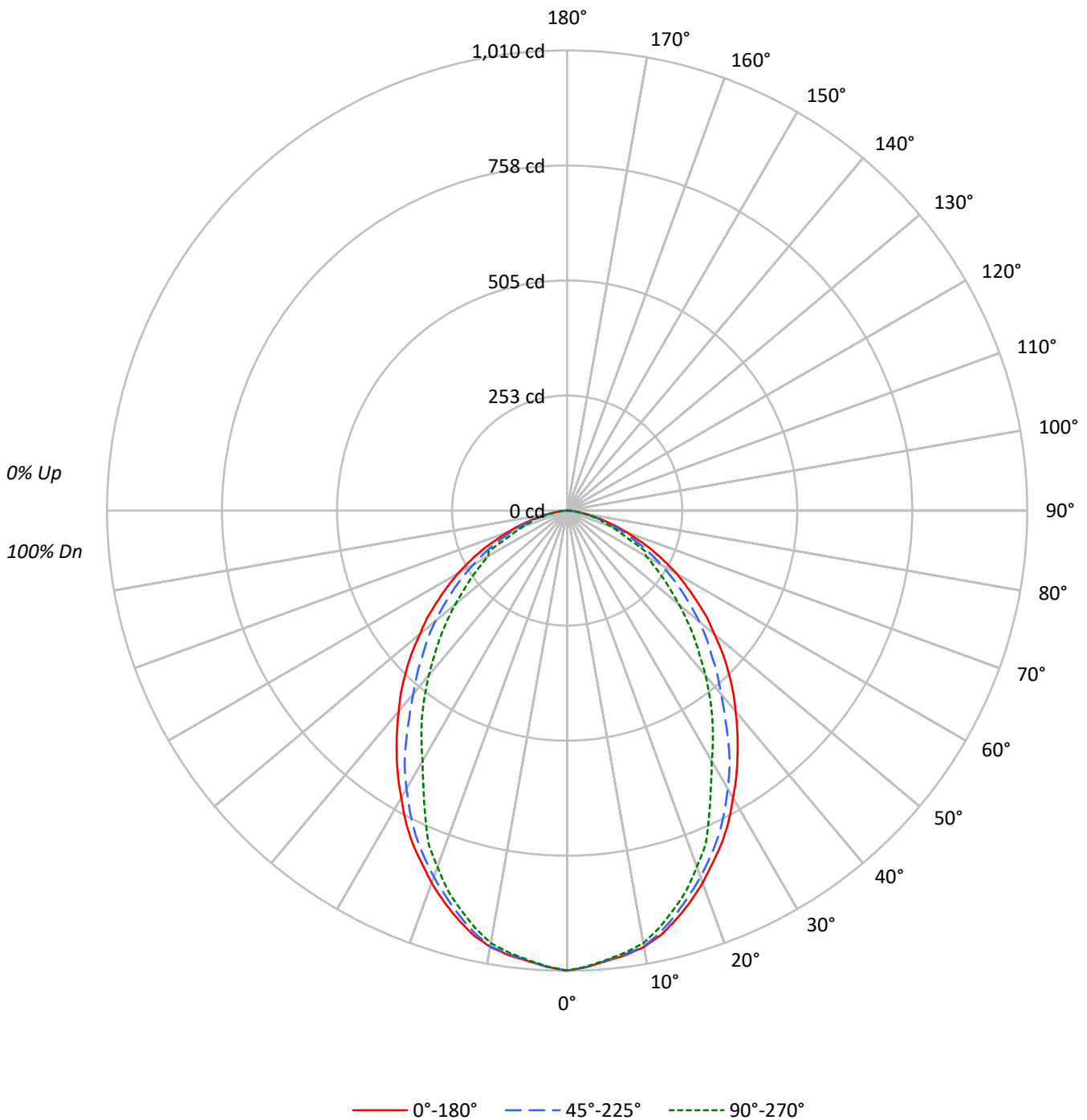
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2717	2717	2717
5°	2680	2677	2674
10°	2657	2654	2634
15°	2585	2559	2523
20°	2490	2450	2383
25°	2388	2336	2190
30°	2263	2191	1973
35°	2143	2025	1825
40°	2021	1845	1661
45°	1905	1706	1501
50°	1764	1583	1339
55°	1632	1435	1199
60°	1495	1281	1074
65°	1316	1122	951
70°	1083	983	808
75°	862	753	789
80°	578	542	507
85°	361	432	503

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1905 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.0	4.7
10°-20°	257.9	13.0
20°-30°	357.1	18.0
30°-40°	380.7	19.2
40°-50°	347.3	17.5
50°-60°	272.1	13.7
60°-70°	177.3	8.9
70°-80°	78.6	4.0
80°-90°	16.9	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°	709.0	35.8
0°-40°	1089.7	55.0
0°-60°	1709.2	86.2
0°-90°	1982.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1982.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1010	1010	1010	1010	1010	
5°	992	991	991	990	990	94
15°	928	928	919	909	906	261
25°	804	800	787	759	738	369
35°	652	648	616	570	556	408
45°	501	490	448	411	394	386
55°	348	337	306	270	256	312
65°	207	195	176	180	149	204
75°	83	77	72	69	76	89
85°	12	13	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1009.6	1009.6	1009.6	1009.6	1009.6
2.5°	1002.6	1002.6	1002.6	1001.4	1001.4
5°	992.1	990.9	990.9	989.8	989.8
7.5°	983.9	982.8	981.6	980.4	978.1
10°	972.3	972.3	971.1	965.3	964.1
12.5°	953.6	952.4	947.7	939.6	937.2
15°	927.9	927.9	918.6	909.2	905.7
17.5°	899.9	898.7	887.1	877.7	873.0
20°	869.5	867.2	855.5	840.4	832.2
22.5°	835.7	835.7	821.7	801.8	793.7
25°	804.2	799.5	786.7	758.7	737.7
27.5°	768.0	761.0	747.0	707.3	682.8
30°	728.3	724.8	705.0	653.6	634.9
32.5°	691.0	685.1	664.1	610.4	595.3
35°	652.4	647.8	616.3	569.6	555.6
37.5°	613.9	608.1	568.4	531.1	513.6
40°	575.4	568.4	525.2	491.4	472.7
42.5°	539.2	529.9	487.9	451.7	430.7
45°	500.7	490.2	448.2	410.8	394.5
47.5°	462.2	452.9	414.3	375.8	357.2
50°	421.3	413.2	378.2	339.6	319.8
52.5°	387.5	374.7	340.8	302.3	286.0
55°	347.8	337.3	305.8	269.6	255.6
57.5°	311.6	301.1	272.0	238.1	226.4
60°	277.8	262.6	238.1	208.9	199.6
62.5°	240.4	228.8	207.8	183.2	194.9
65°	206.6	194.9	176.2	179.7	149.4
67.5°	169.2	163.4	147.1	130.7	126.1
70°	137.7	130.7	124.9	107.4	102.7
72.5°	109.7	102.7	94.5	85.2	81.7
75°	82.9	77.0	72.4	68.9	75.9
77.5°	57.2	54.9	51.4	47.9	46.7
80°	37.3	36.2	35.0	33.8	32.7
82.5°	22.2	22.2	22.2	22.2	22.2
85°	11.7	12.8	14.0	15.2	16.3
87.5°	7.0	7.0	8.2	9.3	10.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)