

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: P561304

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561304
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-LD4-1STD-50-UNV-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2331.0 lumens
Efficiency: N/A
Efficacy: 70.0 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

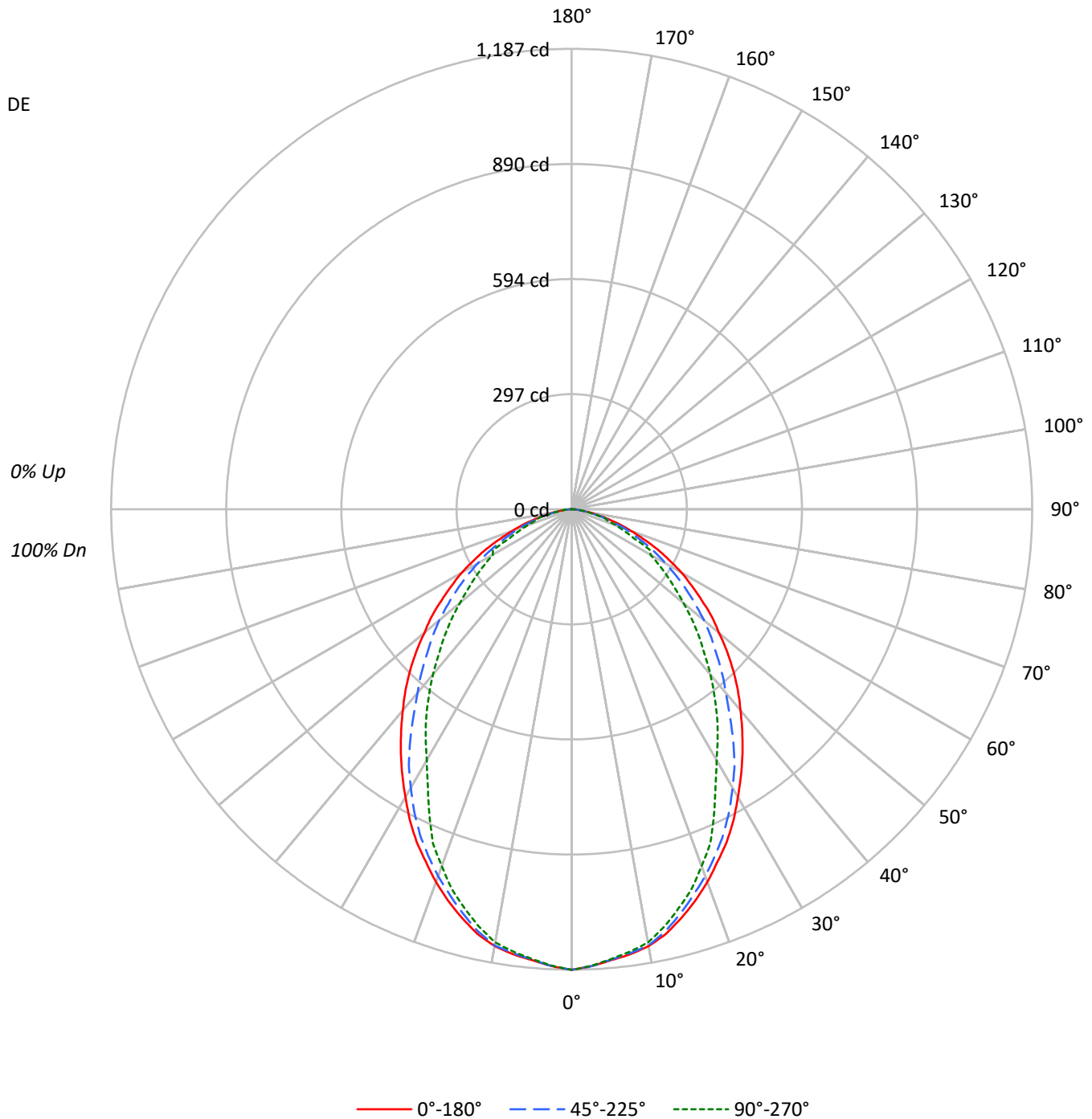
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3195	3195	3195
5°	3152	3148	3144
10°	3125	3121	3098
15°	3040	3010	2968
20°	2929	2881	2803
25°	2808	2747	2576
30°	2662	2576	2320
35°	2521	2381	2146
40°	2377	2170	1953
45°	2241	2006	1766
50°	2074	1862	1575
55°	1919	1687	1410
60°	1758	1507	1263
65°	1547	1320	1119
70°	1275	1156	950
75°	1014	885	927
80°	680	638	595
85°	423	509	593

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2241 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	110.5	4.7
10°-20°	303.3	13.0
20°-30°	419.9	18.0
30°-40°	447.8	19.2
40°-50°	408.5	17.5
50°-60°	320.0	13.7
60°-70°	208.6	8.9
70°-80°	92.4	4.0
80°-90°	19.8	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°	833.8	35.8
0°-40°	1281.6	55.0
0°-60°	2010.1	86.2
0°-90°	2331.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2331.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1187	1187	1187	1187	1187	
5°	1167	1165	1165	1164	1164	111
15°	1091	1091	1080	1069	1065	307
25°	946	940	925	892	868	434
35°	767	762	725	670	653	480
45°	589	576	527	483	464	454
55°	409	397	360	317	301	367
65°	243	229	207	211	176	239
75°	98	91	85	81	89	104
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°	1187.4	1187.4	1187.4	1187.4	1187.4
2.5°	1179.1	1179.1	1179.1	1177.8	1177.8
5°	1166.8	1165.4	1165.4	1164.0	1164.0
7.5°	1157.2	1155.8	1154.4	1153.1	1150.3
10°	1143.5	1143.5	1142.1	1135.2	1133.8
12.5°	1121.5	1120.1	1114.6	1105.0	1102.3
15°	1091.3	1091.3	1080.3	1069.3	1065.2
17.5°	1058.3	1057.0	1043.2	1032.3	1026.8
20°	1022.7	1019.9	1006.2	988.3	978.7
22.5°	982.8	982.8	966.4	943.0	933.4
25°	945.8	940.3	925.2	892.3	867.5
27.5°	903.2	895.0	878.5	831.9	803.0
30°	856.6	852.4	829.1	768.7	746.7
32.5°	812.6	805.8	781.1	717.9	700.1
35°	767.3	761.8	724.8	669.9	653.4
37.5°	722.0	715.2	668.5	624.6	604.0
40°	676.7	668.5	617.7	577.9	555.9
42.5°	634.2	623.2	573.8	531.2	506.5
45°	588.9	576.5	527.1	483.2	464.0
47.5°	543.6	532.6	487.3	442.0	420.0
50°	495.5	485.9	444.8	399.5	376.1
52.5°	455.7	440.6	400.8	355.5	336.3
55°	409.1	396.7	359.6	317.1	300.6
57.5°	366.5	354.2	319.8	280.0	266.3
60°	326.7	308.9	280.0	245.7	234.7
62.5°	282.8	269.0	244.3	215.5	229.2
65°	243.0	229.2	207.3	211.4	175.7
67.5°	199.0	192.2	173.0	153.7	148.3
70°	162.0	153.7	146.9	126.3	120.8
72.5°	129.0	120.8	111.2	100.2	96.1
75°	97.5	90.6	85.1	81.0	89.2
77.5°	67.3	64.5	60.4	56.3	54.9
80°	43.9	42.6	41.2	39.8	38.4
82.5°	26.1	26.1	26.1	26.1	26.1
85°	13.7	15.1	16.5	17.8	19.2
87.5°	8.2	8.2	9.6	11.0	12.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)