

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: P561290

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561290
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-81-94-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2826.0 lumens
Efficiency: N/A
Efficacy: 84.9 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

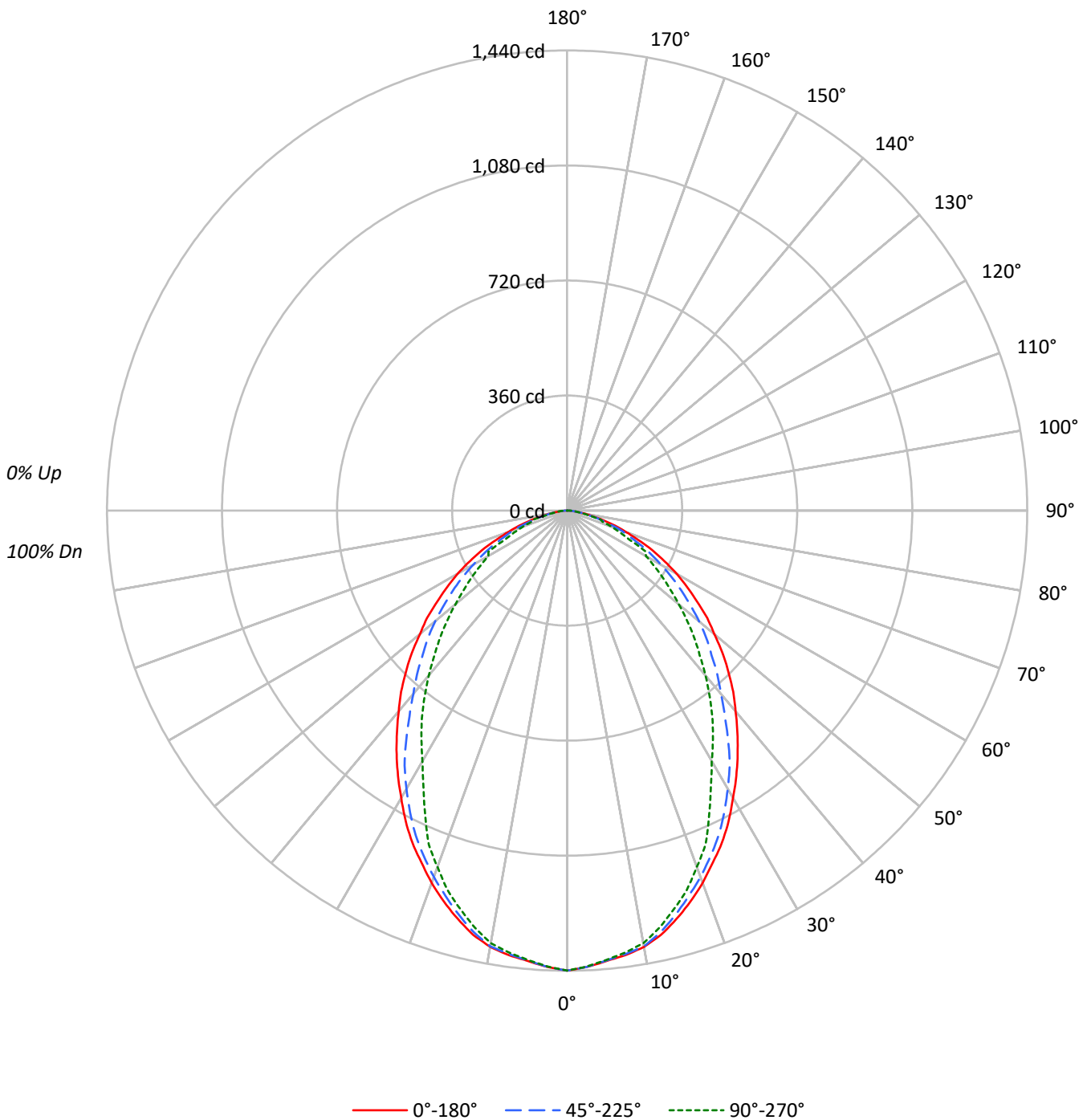
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3874	3874	3874
5°	3821	3817	3812
10°	3788	3783	3756
15°	3686	3649	3598
20°	3550	3493	3398
25°	3404	3331	3123
30°	3227	3123	2813
35°	3056	2887	2602
40°	2882	2631	2368
45°	2717	2432	2141
50°	2515	2257	1909
55°	2327	2046	1710
60°	2132	1827	1532
65°	1876	1600	1356
70°	1545	1401	1152
75°	1229	1073	1125
80°	826	773	722
85°	513	618	719

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2717 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.0	4.7
10°-20°	367.8	13.0
20°-30°	509.1	18.0
30°-40°	542.9	19.2
40°-50°	495.3	17.5
50°-60°	388.0	13.7
60°-70°	252.9	8.9
70°-80°	112.0	4.0
80°-90°	24.0	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°	1010.9	35.8
0°-40°	1553.8	55.0
0°-60°	2437.0	86.2
0°-90°	2826.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2826.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1440	1440	1440	1440	1440	
5°	1415	1413	1413	1411	1411	134
15°	1323	1323	1310	1296	1291	372
25°	1147	1140	1122	1082	1052	526
35°	930	924	879	812	792	582
45°	714	699	639	586	562	550
55°	496	481	436	384	364	445
65°	295	278	251	256	213	290
75°	118	110	103	98	108	127
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1439.5	1439.5	1439.5	1439.5	1439.5
2.5°	1429.5	1429.5	1429.5	1427.9	1427.9
5°	1414.6	1412.9	1412.9	1411.2	1411.2
7.5°	1402.9	1401.3	1399.6	1397.9	1394.6
10°	1386.3	1386.3	1384.6	1376.3	1374.6
12.5°	1359.6	1358.0	1351.3	1339.7	1336.3
15°	1323.0	1323.0	1309.7	1296.4	1291.4
17.5°	1283.1	1281.4	1264.8	1251.5	1244.8
20°	1239.8	1236.5	1219.9	1198.2	1186.6
22.5°	1191.6	1191.6	1171.6	1143.3	1131.7
25°	1146.6	1140.0	1121.7	1081.7	1051.8
27.5°	1095.0	1085.1	1065.1	1008.5	973.6
30°	1038.5	1033.5	1005.2	931.9	905.3
32.5°	985.2	976.9	946.9	870.4	848.7
35°	930.3	923.6	878.7	812.1	792.2
37.5°	875.4	867.0	810.5	757.2	732.2
40°	820.4	810.5	748.9	700.6	674.0
42.5°	768.9	755.5	695.6	644.0	614.1
45°	713.9	699.0	639.0	585.8	562.5
47.5°	659.0	645.7	590.8	535.9	509.2
50°	600.8	589.1	539.2	484.3	456.0
52.5°	552.5	534.2	485.9	431.0	407.7
55°	495.9	481.0	436.0	384.4	364.5
57.5°	444.3	429.4	387.8	339.5	322.9
60°	396.1	374.4	339.5	297.9	284.6
62.5°	342.8	326.2	296.2	261.3	277.9
65°	294.6	277.9	251.3	256.3	213.0
67.5°	241.3	233.0	209.7	186.4	179.7
70°	196.4	186.4	178.1	153.1	146.4
72.5°	156.4	146.4	134.8	121.5	116.5
75°	118.2	109.8	103.2	98.2	108.2
77.5°	81.5	78.2	73.2	68.2	66.6
80°	53.3	51.6	49.9	48.3	46.6
82.5°	31.6	31.6	31.6	31.6	31.6
85°	16.6	18.3	20.0	21.6	23.3
87.5°	10.0	10.0	11.6	13.3	15.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)