

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: P560989

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560989
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2286.0 lumens
Efficiency: N/A
Efficacy: 97.7 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

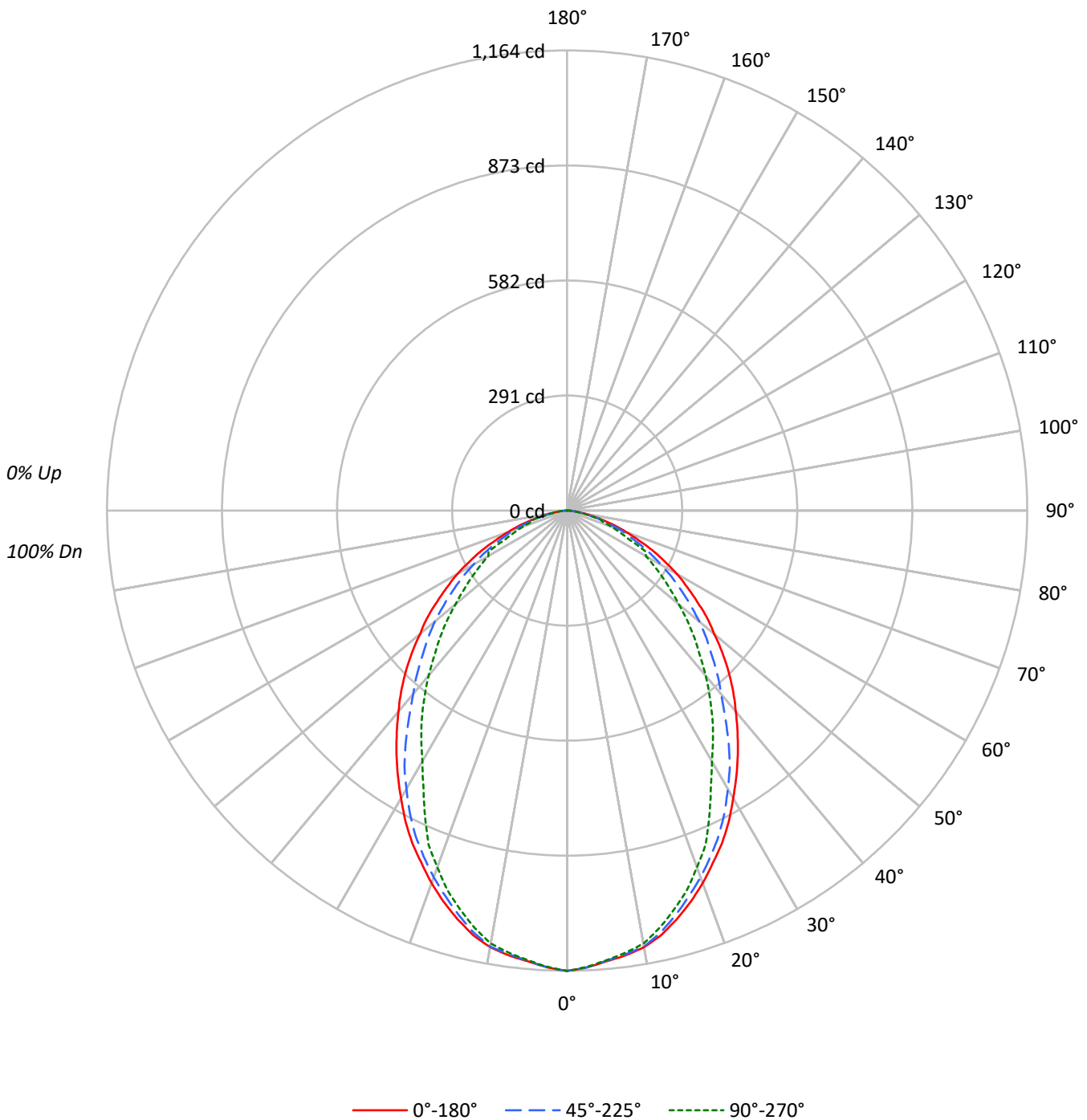
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0																
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100													100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87													87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75													75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65													65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56													56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50													50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44													44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40													40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36													36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33													33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30													30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3134	3134	3134
5°	3091	3087	3084
10°	3064	3060	3039
15°	2981	2952	2910
20°	2872	2826	2749
25°	2754	2694	2526
30°	2610	2527	2275
35°	2472	2335	2105
40°	2331	2128	1915
45°	2198	1967	1732
50°	2035	1826	1544
55°	1882	1655	1383
60°	1724	1478	1239
65°	1517	1294	1097
70°	1250	1133	932
75°	994	868	910
80°	668	626	584
85°	417	500	580

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2198 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.4	4.7
10°-20°	297.5	13.0
20°-30°	411.8	18.0
30°-40°	439.1	19.2
40°-50°	400.6	17.5
50°-60°	313.9	13.7
60°-70°	204.6	8.9
70°-80°	90.6	4.0
80°-90°	19.5	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°	817.7	35.8
0°-40°	1256.9	55.0
0°-60°	1971.4	86.2
0°-90°	2286.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2286.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1164	1164	1164	1164	1164	
5°	1144	1143	1143	1142	1142	109
15°	1070	1070	1060	1049	1045	301
25°	928	922	907	875	851	426
35°	752	747	711	657	641	470
45°	578	565	517	474	455	445
55°	401	389	353	311	295	360
65°	238	225	203	207	172	235
75°	96	89	84	79	88	102
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°	1164.5	1164.5	1164.5	1164.5	1164.5
2.5°	1156.4	1156.4	1156.4	1155.0	1155.0
5°	1144.3	1142.9	1142.9	1141.6	1141.6
7.5°	1134.8	1133.5	1132.1	1130.8	1128.1
10°	1121.4	1121.4	1120.0	1113.3	1112.0
12.5°	1099.8	1098.5	1093.1	1083.7	1081.0
15°	1070.2	1070.2	1059.5	1048.7	1044.6
17.5°	1037.9	1036.6	1023.1	1012.3	1007.0
20°	1002.9	1000.2	986.8	969.3	959.8
22.5°	963.9	963.9	947.7	924.8	915.4
25°	927.5	922.1	907.3	875.0	850.8
27.5°	885.8	877.7	861.6	815.8	787.5
30°	840.0	836.0	813.1	753.9	732.3
32.5°	796.9	790.2	766.0	704.1	686.6
35°	752.5	747.1	710.8	656.9	640.8
37.5°	708.1	701.4	655.6	612.5	592.3
40°	663.7	655.6	605.8	566.7	545.2
42.5°	621.9	611.2	562.7	521.0	496.7
45°	577.5	565.4	516.9	473.9	455.0
47.5°	533.1	522.3	477.9	433.5	411.9
50°	486.0	476.6	436.2	391.7	368.9
52.5°	446.9	432.1	393.1	348.7	329.8
55°	401.2	389.1	352.7	311.0	294.8
57.5°	359.4	347.3	313.7	274.6	261.2
60°	320.4	302.9	274.6	241.0	230.2
62.5°	277.3	263.9	239.6	211.4	224.8
65°	238.3	224.8	203.3	207.3	172.3
67.5°	195.2	188.5	169.6	150.8	145.4
70°	158.9	150.8	144.0	123.8	118.5
72.5°	126.5	118.5	109.0	98.3	94.2
75°	95.6	88.8	83.5	79.4	87.5
77.5°	66.0	63.3	59.2	55.2	53.8
80°	43.1	41.7	40.4	39.0	37.7
82.5°	25.6	25.6	25.6	25.6	25.6
85°	13.5	14.8	16.2	17.5	18.8
87.5°	8.1	8.1	9.4	10.8	12.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)