

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: P561285

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561285
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-81-86-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3141.0 lumens
Efficiency: N/A
Efficacy: 94.3 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

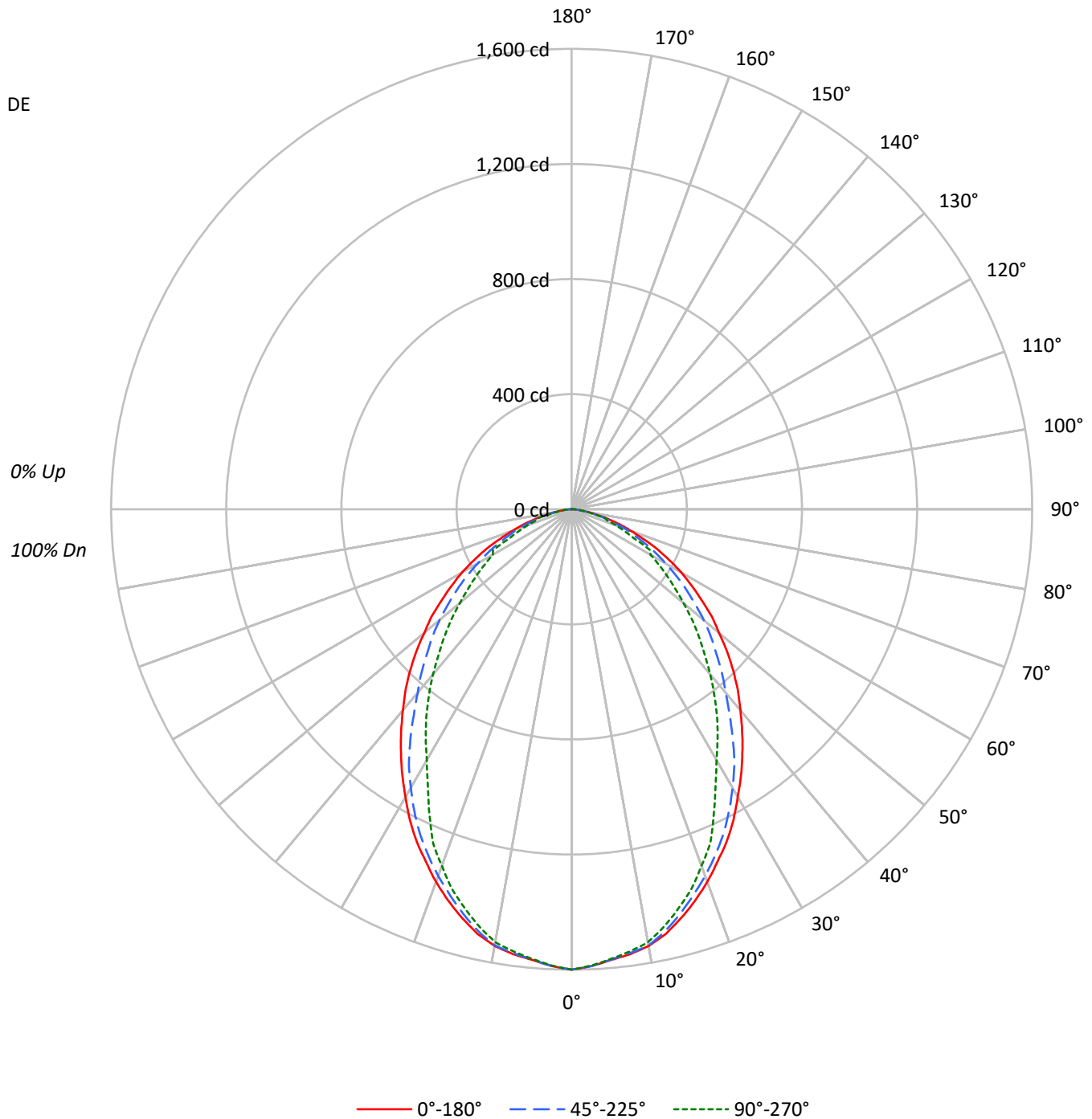
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4306	4306	4306
5°	4247	4242	4237
10°	4210	4205	4175
15°	4097	4055	3999
20°	3946	3883	3777
25°	3784	3702	3471
30°	3586	3471	3127
35°	3397	3208	2893
40°	3203	2924	2631
45°	3020	2703	2379
50°	2795	2509	2122
55°	2586	2274	1901
60°	2369	2031	1702
65°	2085	1778	1508
70°	1718	1557	1281
75°	1365	1193	1250
80°	917	860	803
85°	571	685	800

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3020 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.9	4.7
10°-20°	408.7	13.0
20°-30°	565.9	18.0
30°-40°	603.4	19.2
40°-50°	550.5	17.5
50°-60°	431.3	13.7
60°-70°	281.1	8.9
70°-80°	124.5	4.0
80°-90°	26.7	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°	1123.6	35.8
0°-40°	1727.0	55.0
0°-60°	2708.7	86.2
0°-90°	3141.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3141.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1600	1600	1600	1600	1600	
5°	1572	1570	1570	1568	1568	149
15°	1470	1470	1456	1441	1435	413
25°	1274	1267	1247	1202	1169	585
35°	1034	1027	977	903	880	646
45°	794	777	710	651	625	611
55°	551	535	485	427	405	494
65°	327	309	279	285	237	323
75°	131	122	115	109	120	141
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1600.0	1600.0	1600.0	1600.0	1600.0
2.5°	1588.9	1588.9	1588.9	1587.0	1587.0
5°	1572.2	1570.4	1570.4	1568.5	1568.5
7.5°	1559.3	1557.4	1555.6	1553.7	1550.0
10°	1540.8	1540.8	1538.9	1529.7	1527.8
12.5°	1511.2	1509.3	1501.9	1489.0	1485.3
15°	1470.5	1470.5	1455.7	1440.9	1435.4
17.5°	1426.1	1424.3	1405.8	1391.0	1383.6
20°	1378.0	1374.3	1355.8	1331.8	1318.8
22.5°	1324.4	1324.4	1302.2	1270.7	1257.8
25°	1274.4	1267.0	1246.7	1202.3	1169.0
27.5°	1217.1	1206.0	1183.8	1120.9	1082.1
30°	1154.2	1148.7	1117.2	1035.8	1006.2
32.5°	1095.0	1085.8	1052.5	967.4	943.3
35°	1034.0	1026.6	976.6	902.6	880.5
37.5°	972.9	963.7	900.8	841.6	813.9
40°	911.9	900.8	832.4	778.7	749.1
42.5°	854.6	839.8	773.2	715.8	682.5
45°	793.5	776.9	710.3	651.1	625.2
47.5°	732.5	717.7	656.6	595.6	566.0
50°	667.7	654.8	599.3	538.3	506.8
52.5°	614.1	593.8	540.1	479.1	453.2
55°	551.2	534.6	484.6	427.3	405.1
57.5°	493.9	477.2	431.0	377.3	358.8
60°	440.2	416.2	377.3	331.1	316.3
62.5°	381.0	362.5	329.2	290.4	308.9
65°	327.4	308.9	279.3	284.9	236.8
67.5°	268.2	259.0	233.1	207.2	199.8
70°	218.3	207.2	197.9	170.2	162.8
72.5°	173.9	162.8	149.8	135.0	129.5
75°	131.3	122.1	114.7	109.1	120.2
77.5°	90.6	86.9	81.4	75.8	74.0
80°	59.2	57.3	55.5	53.6	51.8
82.5°	35.1	35.1	35.1	35.1	35.1
85°	18.5	20.3	22.2	24.0	25.9
87.5°	11.1	11.1	12.9	14.8	16.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)