

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: P561159

Luminaire Tested: FSR-12-4-LD4-1STD-35-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561159
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-35-UNV-81-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2959.0 lumens
Efficiency: N/A
Efficacy: 88.9 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

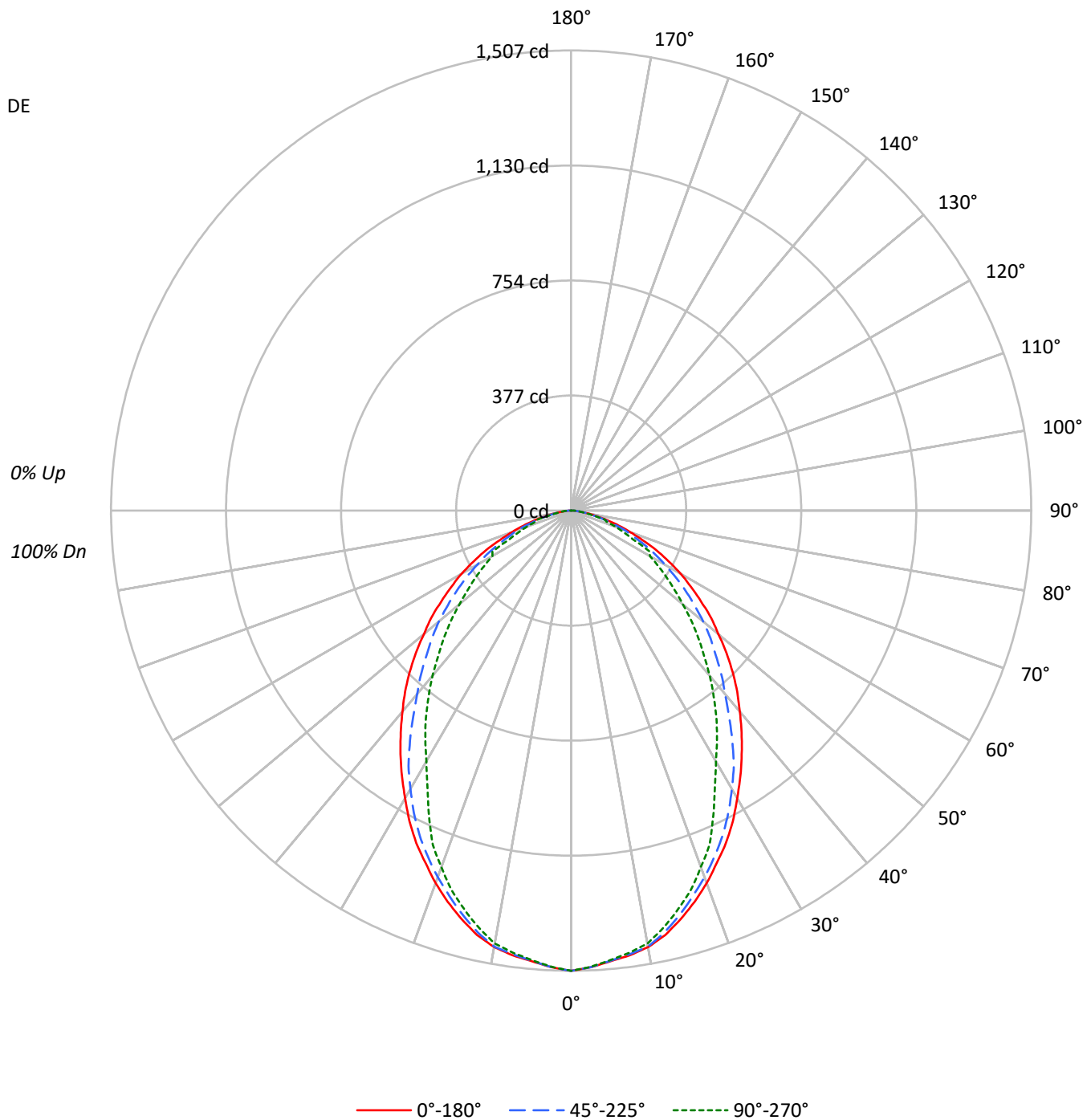
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4056	4056	4056
5°	4001	3996	3992
10°	3966	3962	3933
15°	3859	3821	3767
20°	3718	3658	3558
25°	3565	3487	3270
30°	3379	3270	2945
35°	3200	3022	2725
40°	3018	2754	2479
45°	2845	2546	2242
50°	2633	2364	1999
55°	2436	2142	1790
60°	2232	1913	1604
65°	1964	1675	1420
70°	1618	1467	1206
75°	1286	1123	1178
80°	865	810	756
85°	537	645	753

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2845 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.3	4.7
10°-20°	385.1	13.0
20°-30°	533.1	18.0
30°-40°	568.4	19.2
40°-50°	518.6	17.5
50°-60°	406.3	13.7
60°-70°	264.8	8.9
70°-80°	117.3	4.0
80°-90°	25.2	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°	1058.5	35.8
0°-40°	1626.9	55.0
0°-60°	2551.7	86.2
0°-90°	2959.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2959.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1507	1507	1507	1507	1507	
5°	1481	1479	1479	1478	1478	141
15°	1385	1385	1371	1357	1352	389
25°	1201	1194	1174	1133	1101	551
35°	974	967	920	850	829	609
45°	748	732	669	613	589	576
55°	519	504	456	402	382	466
65°	308	291	263	268	223	304
75°	124	115	108	103	113	133
85°	17	19	21	23	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1507.3	1507.3	1507.3	1507.3	1507.3
2.5°	1496.8	1496.8	1496.8	1495.1	1495.1
5°	1481.1	1479.4	1479.4	1477.7	1477.7
7.5°	1468.9	1467.2	1465.5	1463.7	1460.2
10°	1451.5	1451.5	1449.8	1441.1	1439.3
12.5°	1423.6	1421.9	1414.9	1402.7	1399.2
15°	1385.3	1385.3	1371.4	1357.4	1352.2
17.5°	1343.5	1341.7	1324.3	1310.4	1303.4
20°	1298.2	1294.7	1277.3	1254.6	1242.4
22.5°	1247.6	1247.6	1226.7	1197.1	1184.9
25°	1200.6	1193.6	1174.5	1132.6	1101.3
27.5°	1146.6	1136.1	1115.2	1056.0	1019.4
30°	1087.3	1082.1	1052.5	975.8	947.9
32.5°	1031.6	1022.9	991.5	911.3	888.7
35°	974.1	967.1	920.0	850.3	829.4
37.5°	916.6	907.9	848.6	792.8	766.7
40°	859.1	848.6	784.1	733.6	705.7
42.5°	805.0	791.1	728.4	674.4	643.0
45°	747.5	731.9	669.1	613.4	589.0
47.5°	690.0	676.1	618.6	561.1	533.2
50°	629.0	616.9	564.6	507.1	477.4
52.5°	578.5	559.3	508.8	451.3	426.9
55°	519.3	503.6	456.5	402.5	381.6
57.5°	465.3	449.6	406.0	355.5	338.0
60°	414.7	392.1	355.5	311.9	298.0
62.5°	359.0	341.5	310.2	273.6	291.0
65°	308.4	291.0	263.1	268.3	223.0
67.5°	252.7	244.0	219.6	195.2	188.2
70°	205.6	195.2	186.4	160.3	153.3
72.5°	163.8	153.3	141.1	127.2	122.0
75°	123.7	115.0	108.0	102.8	113.3
77.5°	85.4	81.9	76.7	71.4	69.7
80°	55.8	54.0	52.3	50.5	48.8
82.5°	33.1	33.1	33.1	33.1	33.1
85°	17.4	19.2	20.9	22.7	24.4
87.5°	10.5	10.5	12.2	13.9	15.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)