

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: P560793

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560793
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-LD4-1HI-35-UNV-82-88-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3199.0 lumens
Efficiency: N/A
Efficacy: 74.1 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

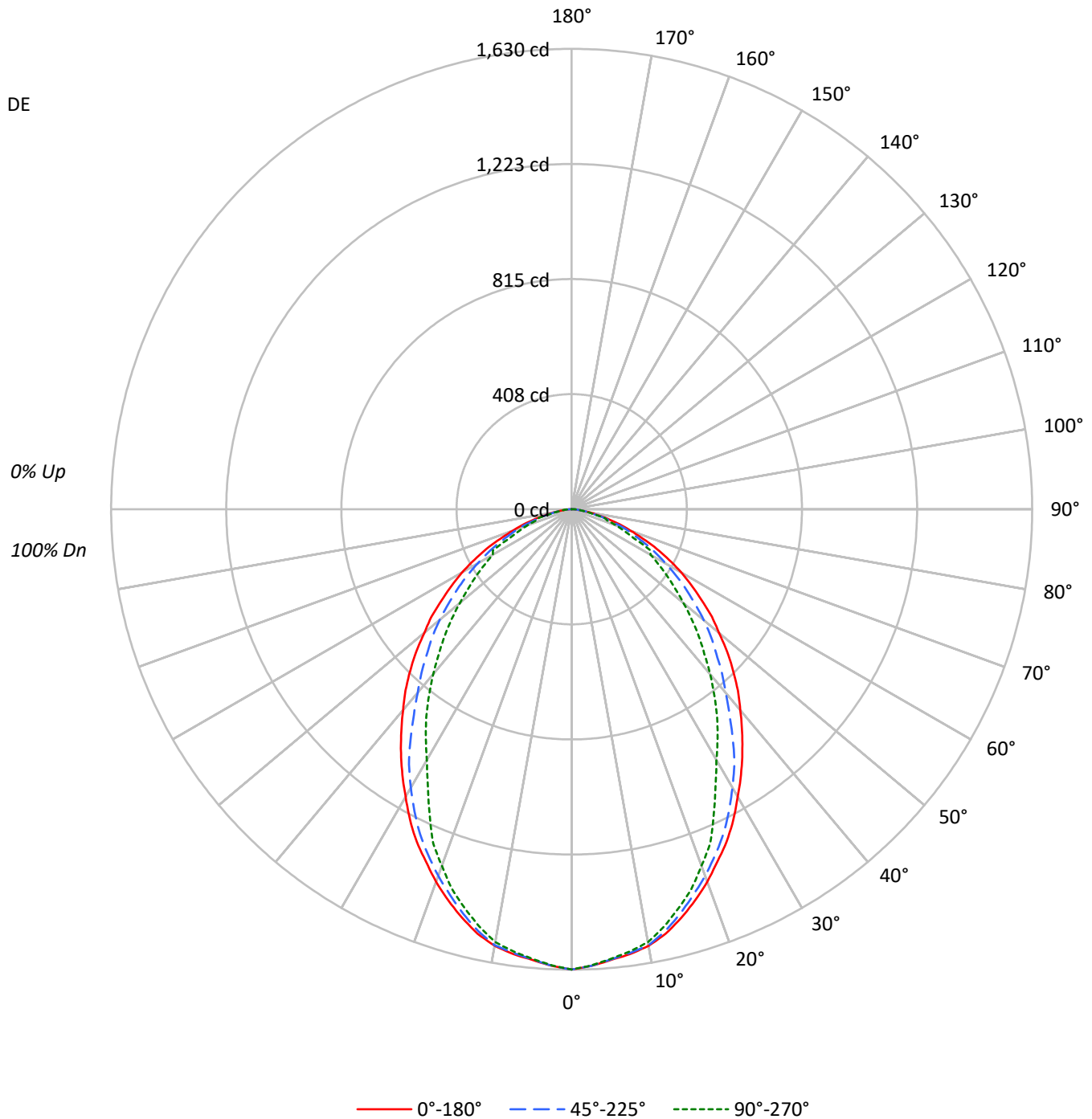
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4385	4385	4385
5°	4326	4320	4315
10°	4288	4283	4252
15°	4172	4130	4073
20°	4019	3954	3846
25°	3854	3770	3535
30°	3653	3535	3184
35°	3460	3268	2946
40°	3262	2978	2680
45°	3076	2753	2423
50°	2847	2555	2161
55°	2634	2316	1936
60°	2413	2068	1734
65°	2123	1812	1535
70°	1749	1586	1304
75°	1391	1214	1274
80°	934	876	817
85°	580	698	815

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3076 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.7	4.7
10°-20°	416.3	13.0
20°-30°	576.3	18.0
30°-40°	614.5	19.2
40°-50°	560.6	17.5
50°-60°	439.2	13.7
60°-70°	286.3	8.9
70°-80°	126.8	4.0
80°-90°	27.2	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°	1144.3	35.8
0°-40°	1758.8	55.0
0°-60°	2758.7	86.2
0°-90°	3199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3199.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1630	1630	1630	1630	1630	
5°	1601	1599	1599	1598	1598	152
15°	1498	1498	1483	1468	1462	421
25°	1298	1290	1270	1224	1191	596
35°	1053	1046	995	919	897	658
45°	808	791	723	663	637	623
55°	561	544	494	435	413	504
65°	333	315	284	290	241	329
75°	134	124	117	111	122	143
85°	19	21	23	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1629.5	1629.5	1629.5	1629.5	1629.5
2.5°	1618.2	1618.2	1618.2	1616.3	1616.3
5°	1601.3	1599.4	1599.4	1597.5	1597.5
7.5°	1588.1	1586.2	1584.3	1582.4	1578.7
10°	1569.2	1569.2	1567.4	1557.9	1556.1
12.5°	1539.1	1537.2	1529.7	1516.5	1512.7
15°	1497.7	1497.7	1482.6	1467.5	1461.9
17.5°	1452.4	1450.6	1431.7	1416.7	1409.1
20°	1403.5	1399.7	1380.9	1356.4	1343.2
22.5°	1348.8	1348.8	1326.2	1294.2	1281.0
25°	1298.0	1290.4	1269.7	1224.5	1190.6
27.5°	1239.6	1228.3	1205.7	1141.6	1102.1
30°	1175.5	1169.9	1137.8	1055.0	1024.8
32.5°	1115.2	1105.8	1071.9	985.3	960.8
35°	1053.1	1045.5	994.7	919.3	896.7
37.5°	990.9	981.5	917.4	857.2	828.9
40°	928.7	917.4	847.7	793.1	763.0
42.5°	870.3	855.3	787.4	729.0	695.1
45°	808.2	791.2	723.4	663.1	636.7
47.5°	746.0	730.9	668.8	606.6	576.5
50°	680.1	666.9	610.4	548.2	516.2
52.5°	625.4	604.7	550.1	487.9	461.5
55°	561.4	544.4	493.6	435.2	412.6
57.5°	503.0	486.0	438.9	384.3	365.5
60°	448.4	423.9	384.3	337.2	322.1
62.5°	388.1	369.2	335.3	295.8	314.6
65°	333.4	314.6	284.5	290.1	241.1
67.5°	273.2	263.7	237.4	211.0	203.5
70°	222.3	211.0	201.6	173.3	165.8
72.5°	177.1	165.8	152.6	137.5	131.9
75°	133.8	124.3	116.8	111.1	122.5
77.5°	92.3	88.5	82.9	77.2	75.4
80°	60.3	58.4	56.5	54.6	52.7
82.5°	35.8	35.8	35.8	35.8	35.8
85°	18.8	20.7	22.6	24.5	26.4
87.5°	11.3	11.3	13.2	15.1	17.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)