

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: P560904

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560904
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-50-UNV-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2920.0 lumens
Efficiency: N/A
Efficacy: 67.6 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

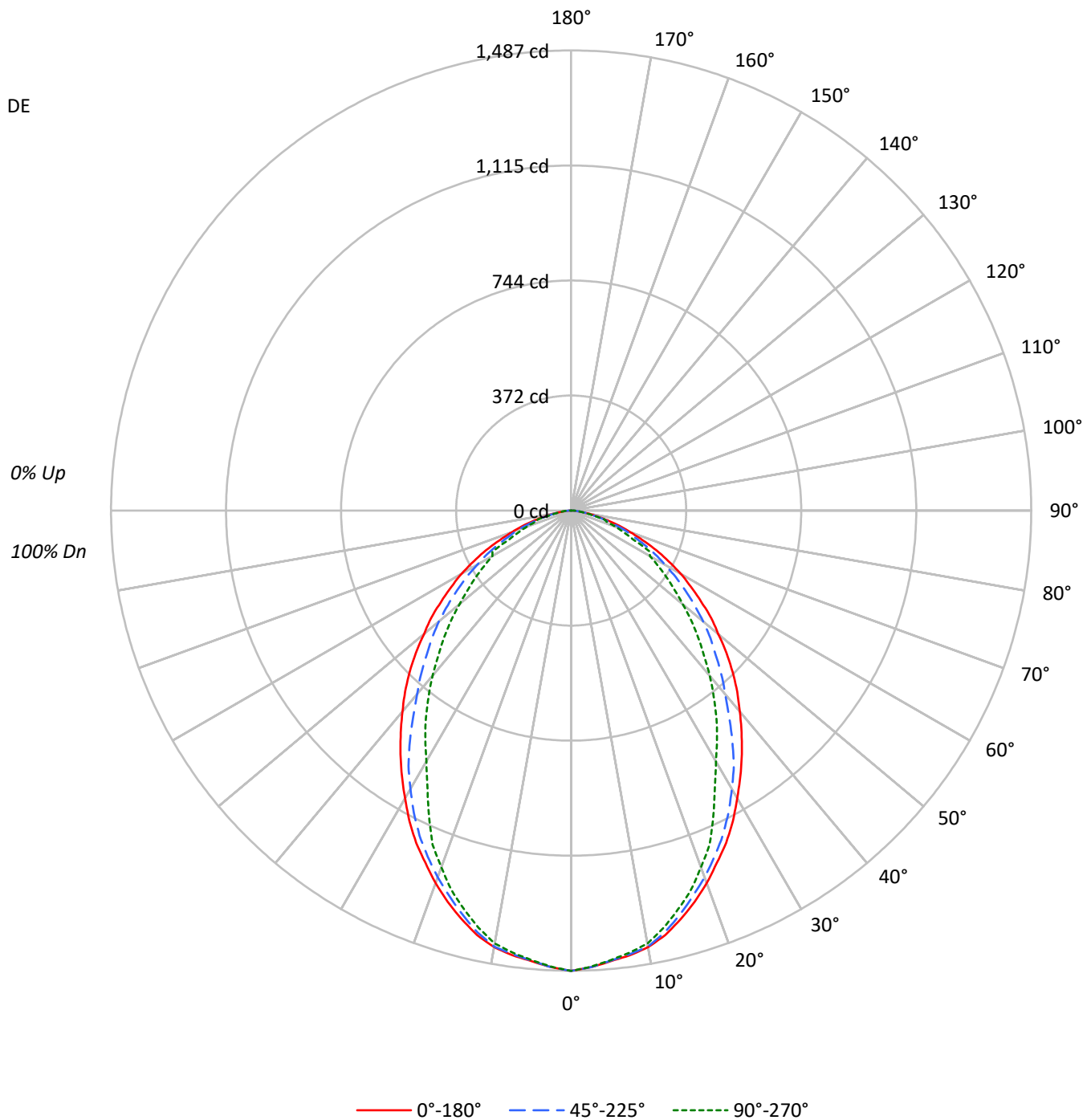
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4003	4003	4003
5°	3948	3944	3939
10°	3914	3909	3881
15°	3808	3770	3718
20°	3669	3609	3511
25°	3518	3441	3227
30°	3334	3227	2907
35°	3158	2983	2689
40°	2978	2718	2446
45°	2807	2513	2212
50°	2599	2332	1973
55°	2404	2114	1767
60°	2203	1888	1582
65°	1938	1654	1401
70°	1596	1448	1190
75°	1269	1108	1162
80°	852	800	745
85°	531	636	744

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2807 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.5	4.7
10°-20°	380.0	13.0
20°-30°	526.1	18.0
30°-40°	560.9	19.2
40°-50°	511.7	17.5
50°-60°	400.9	13.7
60°-70°	261.3	8.9
70°-80°	115.8	4.0
80°-90°	24.9	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°	1044.5	35.8
0°-40°	1605.4	55.0
0°-60°	2518.1	86.2
0°-90°	2920.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2920.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1487	1487	1487	1487	1487	
5°	1462	1460	1460	1458	1458	139
15°	1367	1367	1353	1340	1334	384
25°	1185	1178	1159	1118	1087	544
35°	961	954	908	839	818	601
45°	738	722	660	605	581	568
55°	512	497	450	397	377	460
65°	304	287	260	265	220	300
75°	122	114	107	102	112	131
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1487.4	1487.4	1487.4	1487.4	1487.4
2.5°	1477.1	1477.1	1477.1	1475.4	1475.4
5°	1461.6	1459.9	1459.9	1458.2	1458.2
7.5°	1449.6	1447.9	1446.1	1444.4	1441.0
10°	1432.4	1432.4	1430.7	1422.1	1420.3
12.5°	1404.9	1403.2	1396.3	1384.2	1380.8
15°	1367.0	1367.0	1353.3	1339.5	1334.4
17.5°	1325.8	1324.1	1306.9	1293.1	1286.2
20°	1281.1	1277.6	1260.4	1238.1	1226.0
22.5°	1231.2	1231.2	1210.6	1181.3	1169.3
25°	1184.8	1177.9	1159.0	1117.7	1086.8
27.5°	1131.5	1121.1	1100.5	1042.0	1005.9
30°	1073.0	1067.8	1038.6	962.9	935.4
32.5°	1018.0	1009.4	978.4	899.3	877.0
35°	961.2	954.3	907.9	839.1	818.5
37.5°	904.5	895.9	837.4	782.4	756.6
40°	847.7	837.4	773.8	723.9	696.4
42.5°	794.4	780.7	718.8	665.5	634.5
45°	737.7	722.2	660.3	605.3	581.2
47.5°	680.9	667.2	610.4	553.7	526.2
50°	620.8	608.7	557.1	500.4	471.2
52.5°	570.9	552.0	502.1	445.4	421.3
55°	512.4	496.9	450.5	397.2	376.6
57.5°	459.1	443.6	400.7	350.8	333.6
60°	409.3	386.9	350.8	307.8	294.0
62.5°	354.2	337.0	306.1	270.0	287.2
65°	304.4	287.2	259.7	264.8	220.1
67.5°	249.3	240.7	216.7	192.6	185.7
70°	202.9	192.6	184.0	158.2	151.3
72.5°	161.6	151.3	139.3	125.5	120.4
75°	122.1	113.5	106.6	101.5	111.8
77.5°	84.3	80.8	75.7	70.5	68.8
80°	55.0	53.3	51.6	49.9	48.1
82.5°	32.7	32.7	32.7	32.7	32.7
85°	17.2	18.9	20.6	22.4	24.1
87.5°	10.3	10.3	12.0	13.8	15.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)