

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: P560902

Luminaire Tested: FSR-12-4-LD4-1HI-50-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560902
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-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3243.0 lumens
Efficiency: N/A
Efficacy: 75.1 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

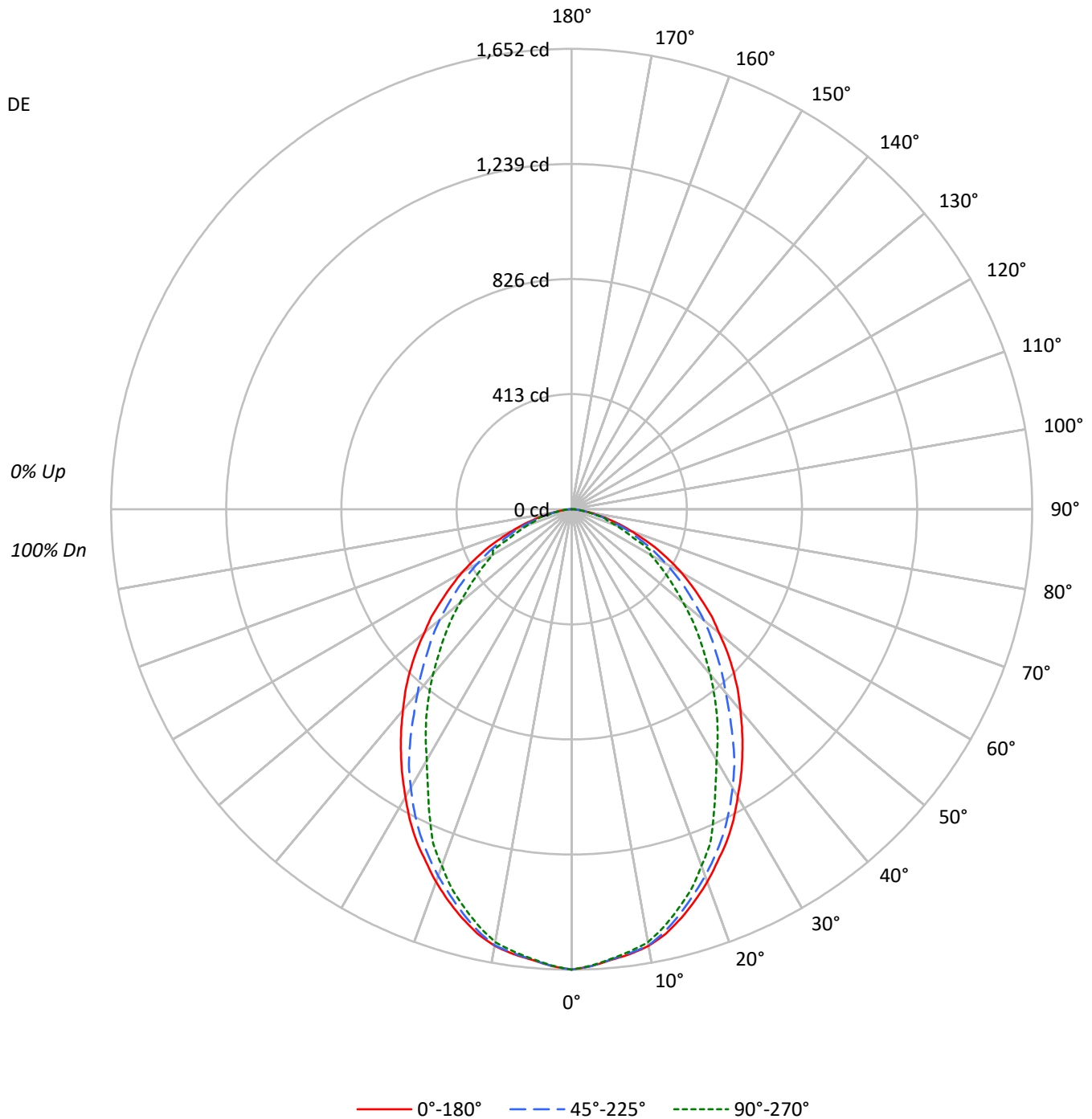
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4445	4445	4445
5°	4385	4380	4375
10°	4347	4342	4311
15°	4230	4187	4129
20°	4074	4009	3899
25°	3907	3822	3584
30°	3703	3584	3228
35°	3507	3313	2986
40°	3307	3019	2717
45°	3118	2791	2457
50°	2886	2591	2191
55°	2670	2348	1962
60°	2446	2097	1758
65°	2152	1836	1556
70°	1773	1607	1323
75°	1410	1231	1290
80°	947	888	829
85°	590	707	824

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3118 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.8	4.7
10°-20°	422.0	13.0
20°-30°	584.3	18.0
30°-40°	623.0	19.2
40°-50°	568.3	17.5
50°-60°	445.3	13.7
60°-70°	290.2	8.9
70°-80°	128.6	4.0
80°-90°	27.6	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°	1160.1	35.8
0°-40°	1783.0	55.0
0°-60°	2796.6	86.2
0°-90°	3243.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3243.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1652	1652	1652	1652	1652	
5°	1623	1621	1621	1620	1620	154
15°	1518	1518	1503	1488	1482	427
25°	1316	1308	1287	1241	1207	604
35°	1068	1060	1008	932	909	667
45°	819	802	733	672	646	631
55°	569	552	500	441	418	510
65°	338	319	288	294	244	333
75°	136	126	118	113	124	145
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1651.9	1651.9	1651.9	1651.9	1651.9
2.5°	1640.5	1640.5	1640.5	1638.6	1638.6
5°	1623.3	1621.4	1621.4	1619.5	1619.5
7.5°	1609.9	1608.0	1606.1	1604.2	1600.4
10°	1590.8	1590.8	1588.9	1579.4	1577.5
12.5°	1560.3	1558.4	1550.7	1537.4	1533.5
15°	1518.3	1518.3	1503.0	1487.7	1482.0
17.5°	1472.4	1470.5	1451.4	1436.1	1428.5
20°	1422.8	1419.0	1399.9	1375.0	1361.7
22.5°	1367.4	1367.4	1344.5	1312.0	1298.6
25°	1315.8	1308.2	1287.2	1241.3	1207.0
27.5°	1256.6	1245.2	1222.2	1157.3	1117.2
30°	1191.7	1186.0	1153.5	1069.5	1038.9
32.5°	1130.6	1121.0	1086.7	998.8	974.0
35°	1067.6	1059.9	1008.4	932.0	909.0
37.5°	1004.5	995.0	930.1	868.9	840.3
40°	941.5	930.1	859.4	804.0	773.5
42.5°	882.3	867.0	798.3	739.1	704.7
45°	819.3	802.1	733.3	672.2	645.5
47.5°	756.3	741.0	678.0	614.9	584.4
50°	689.4	676.1	618.8	555.7	523.3
52.5°	634.0	613.0	557.6	494.6	467.9
55°	569.1	551.9	500.4	441.2	418.2
57.5°	509.9	492.7	445.0	389.6	370.5
60°	454.5	429.7	389.6	341.8	326.6
62.5°	393.4	374.3	339.9	299.8	318.9
65°	338.0	318.9	288.4	294.1	244.4
67.5°	276.9	267.4	240.6	213.9	206.3
70°	225.4	213.9	204.3	175.7	168.1
72.5°	179.5	168.1	154.7	139.4	133.7
75°	135.6	126.0	118.4	112.7	124.1
77.5°	93.6	89.8	84.0	78.3	76.4
80°	61.1	59.2	57.3	55.4	53.5
82.5°	36.3	36.3	36.3	36.3	36.3
85°	19.1	21.0	22.9	24.8	26.7
87.5°	11.5	11.5	13.4	15.3	17.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)