

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: P561281

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561281
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-81-84-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3241.0 lumens
Efficiency: N/A
Efficacy: 97.3 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

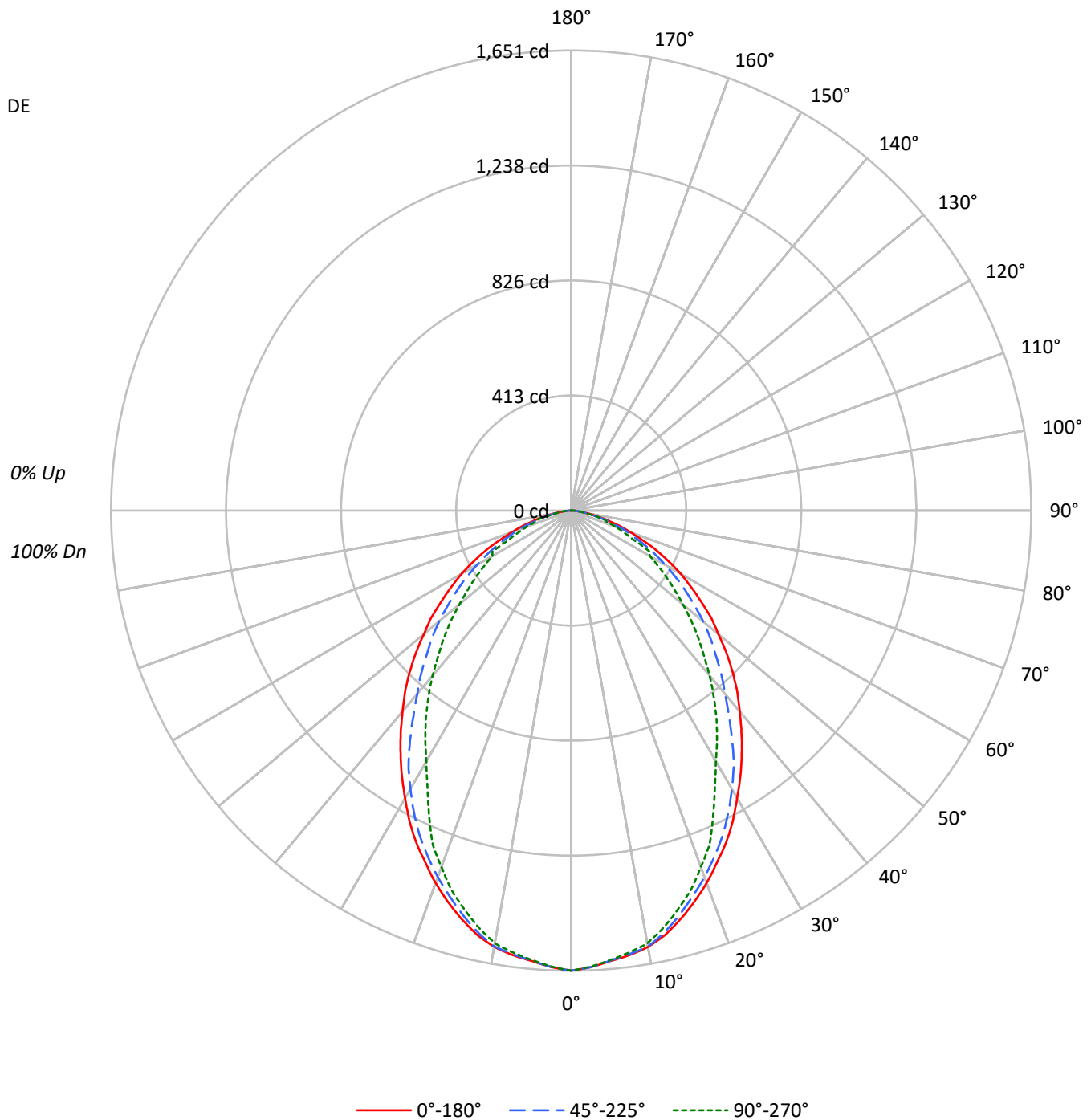
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4443	4443	4443
5°	4382	4377	4372
10°	4344	4339	4308
15°	4227	4185	4126
20°	4072	4006	3897
25°	3904	3820	3581
30°	3701	3582	3226
35°	3505	3310	2984
40°	3305	3017	2715
45°	3116	2789	2455
50°	2884	2589	2189
55°	2669	2346	1961
60°	2444	2096	1757
65°	2151	1835	1556
70°	1772	1607	1322
75°	1409	1230	1290
80°	947	888	828
85°	590	707	824

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3116 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.7	4.7
10°-20°	421.8	13.0
20°-30°	583.9	18.0
30°-40°	622.6	19.2
40°-50°	568.0	17.5
50°-60°	445.0	13.7
60°-70°	290.0	8.9
70°-80°	128.5	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°	1159.3	35.8
0°-40°	1781.9	55.0
0°-60°	2794.9	86.2
0°-90°	3241.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3241.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1651	1651	1651	1651	1651	
5°	1622	1620	1620	1618	1618	154
15°	1517	1517	1502	1487	1481	427
25°	1315	1307	1286	1241	1206	604
35°	1067	1059	1008	931	908	667
45°	819	802	733	672	645	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°	1650.9	1650.9	1650.9	1650.9	1650.9
2.5°	1639.5	1639.5	1639.5	1637.6	1637.6
5°	1622.3	1620.4	1620.4	1618.5	1618.5
7.5°	1608.9	1607.0	1605.1	1603.2	1599.4
10°	1589.8	1589.8	1587.9	1578.4	1576.5
12.5°	1559.3	1557.4	1549.8	1536.4	1532.6
15°	1517.3	1517.3	1502.1	1486.8	1481.1
17.5°	1471.5	1469.6	1450.5	1435.3	1427.6
20°	1421.9	1418.1	1399.0	1374.2	1360.8
22.5°	1366.5	1366.5	1343.6	1311.2	1297.8
25°	1315.0	1307.4	1286.4	1240.6	1206.2
27.5°	1255.8	1244.4	1221.5	1156.6	1116.5
30°	1191.0	1185.2	1152.8	1068.8	1038.3
32.5°	1129.9	1120.3	1086.0	998.2	973.4
35°	1066.9	1059.3	1007.7	931.4	908.5
37.5°	1003.9	994.4	929.5	868.4	839.8
40°	940.9	929.5	858.9	803.5	773.0
42.5°	881.8	866.5	797.8	738.6	704.3
45°	818.8	801.6	732.9	671.8	645.1
47.5°	755.8	740.5	677.5	614.6	584.0
50°	689.0	675.6	618.4	555.4	523.0
52.5°	633.6	612.7	557.3	494.3	467.6
55°	568.8	551.6	500.0	440.9	418.0
57.5°	509.6	492.4	444.7	389.4	370.3
60°	454.2	429.4	389.4	341.6	326.4
62.5°	393.2	374.1	339.7	299.6	318.7
65°	337.8	318.7	288.2	293.9	244.3
67.5°	276.7	267.2	240.5	213.8	206.1
70°	225.2	213.8	204.2	175.6	168.0
72.5°	179.4	168.0	154.6	139.3	133.6
75°	135.5	126.0	118.3	112.6	124.1
77.5°	93.5	89.7	84.0	78.3	76.3
80°	61.1	59.2	57.3	55.3	53.4
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)