

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: P562372

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562372
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-24-4-LD4-1STD-40-UNV-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3049.0 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

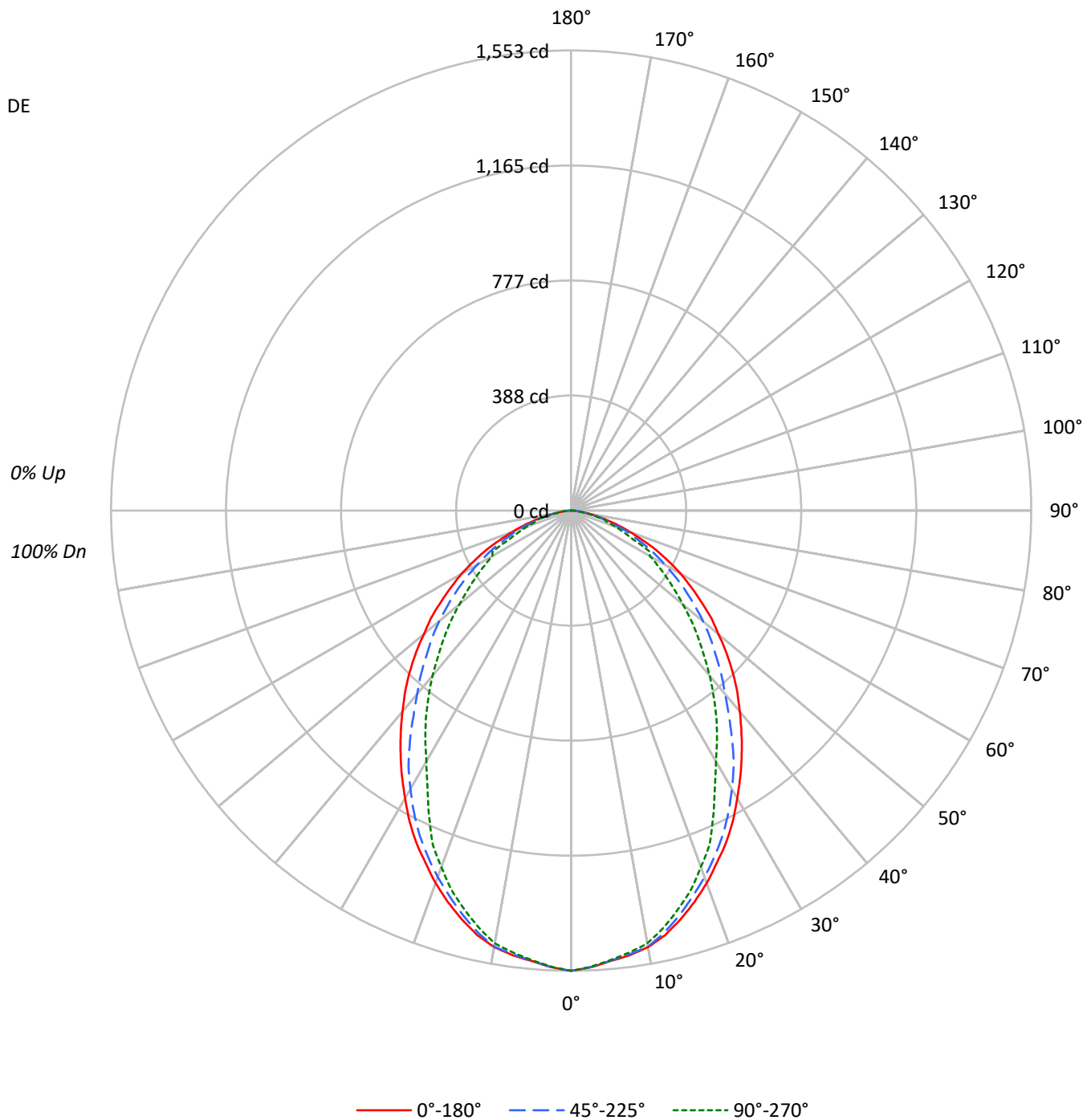
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	2090	2090	2090
5°	2061	2059	2056
10°	2043	2041	2026
15°	1988	1968	1941
20°	1915	1884	1833
25°	1837	1797	1685
30°	1741	1685	1518
35°	1649	1557	1404
40°	1555	1419	1277
45°	1466	1312	1155
50°	1357	1218	1030
55°	1255	1103	922
60°	1150	986	826
65°	1012	863	732
70°	834	756	622
75°	663	579	607
80°	446	418	390
85°	278	332	387

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1466 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.6	4.7
10°-20°	396.8	13.0
20°-30°	549.3	18.0
30°-40°	585.7	19.2
40°-50°	534.3	17.5
50°-60°	418.6	13.7
60°-70°	272.8	8.9
70°-80°	120.9	4.0
80°-90°	26.0	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°	1090.7	35.8
0°-40°	1676.4	55.0
0°-60°	2629.3	86.2
0°-90°	3049.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3049.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1553	1553	1553	1553	1553	
5°	1526	1524	1524	1523	1523	145
15°	1427	1427	1413	1399	1393	401
25°	1237	1230	1210	1167	1135	568
35°	1004	996	948	876	855	627
45°	770	754	690	632	607	593
55°	535	519	470	415	393	480
65°	318	300	271	276	230	313
75°	128	118	111	106	117	137
85°	18	20	22	23	25	25
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1553.1	1553.1	1553.1	1553.1	1553.1
2.5°	1542.3	1542.3	1542.3	1540.6	1540.6
5°	1526.2	1524.4	1524.4	1522.6	1522.6
7.5°	1513.6	1511.8	1510.0	1508.2	1504.6
10°	1495.7	1495.7	1493.9	1484.9	1483.1
12.5°	1466.9	1465.1	1458.0	1445.4	1441.8
15°	1427.4	1427.4	1413.1	1398.7	1393.3
17.5°	1384.3	1382.5	1364.6	1350.2	1343.0
20°	1337.7	1334.1	1316.1	1292.8	1280.2
22.5°	1285.6	1285.6	1264.0	1233.5	1220.9
25°	1237.1	1229.9	1210.2	1167.1	1134.8
27.5°	1181.4	1170.7	1149.1	1088.1	1050.4
30°	1120.4	1115.0	1084.5	1005.5	976.8
32.5°	1062.9	1054.0	1021.6	939.1	915.7
35°	1003.7	996.5	948.0	876.2	854.7
37.5°	944.4	935.5	874.4	817.0	790.0
40°	885.2	874.4	808.0	755.9	727.2
42.5°	829.5	815.2	750.5	694.9	662.5
45°	770.3	754.1	689.5	632.0	606.9
47.5°	711.0	696.7	637.4	578.2	549.4
50°	648.2	635.6	581.7	522.5	492.0
52.5°	596.1	576.4	524.3	465.0	439.9
55°	535.1	518.9	470.4	414.8	393.2
57.5°	479.4	463.2	418.4	366.3	348.3
60°	427.3	404.0	366.3	321.4	307.0
62.5°	369.9	351.9	319.6	281.9	299.9
65°	317.8	299.9	271.1	276.5	229.8
67.5°	260.3	251.4	226.2	201.1	193.9
70°	211.9	201.1	192.1	165.2	158.0
72.5°	168.8	158.0	145.4	131.1	125.7
75°	127.5	118.5	111.3	105.9	116.7
77.5°	88.0	84.4	79.0	73.6	71.8
80°	57.5	55.7	53.9	52.1	50.3
82.5°	34.1	34.1	34.1	34.1	34.1
85°	18.0	19.8	21.5	23.3	25.1
87.5°	10.8	10.8	12.6	14.4	16.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)