

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: P562392

Luminaire Tested: FSR-24-4-LD4-1STD-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562392
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-82-88-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2601.0 lumens
Efficiency: N/A
Efficacy: 78.1 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

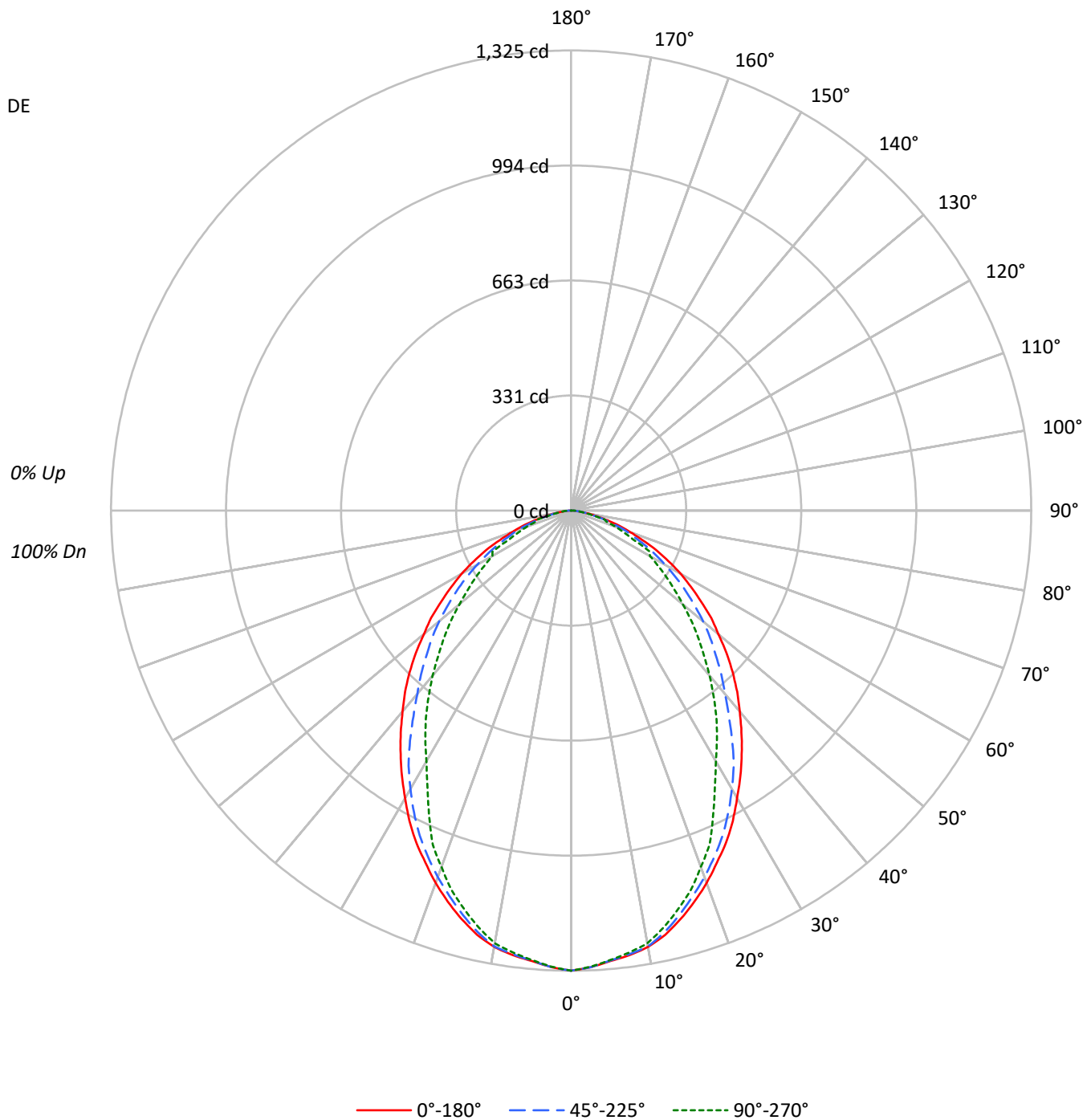
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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												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°	1783	1783	1783
5°	1758	1756	1754
10°	1743	1741	1729
15°	1696	1679	1656
20°	1634	1608	1564
25°	1567	1533	1437
30°	1485	1437	1294
35°	1406	1328	1198
40°	1326	1211	1090
45°	1250	1119	985
50°	1157	1039	879
55°	1071	941	787
60°	981	841	705
65°	863	736	624
70°	711	645	530
75°	566	494	518
80°	380	356	332
85°	236	284	330

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1250 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.3	4.7
10°-20°	338.5	13.0
20°-30°	468.6	18.0
30°-40°	499.7	19.2
40°-50°	455.8	17.5
50°-60°	357.1	13.7
60°-70°	232.7	8.9
70°-80°	103.1	4.0
80°-90°	22.1	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°	930.4	35.8
0°-40°	1430.0	55.0
0°-60°	2243.0	86.2
0°-90°	2601.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2601.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1325	1325	1325	1325	1325	
5°	1302	1300	1300	1299	1299	124
15°	1218	1218	1205	1193	1189	342
25°	1055	1049	1032	996	968	485
35°	856	850	809	748	729	535
45°	657	643	588	539	518	506
55°	456	443	401	354	335	409
65°	271	256	231	236	196	267
75°	109	101	95	90	100	117
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1324.9	1324.9	1324.9	1324.9	1324.9
2.5°	1315.7	1315.7	1315.7	1314.2	1314.2
5°	1301.9	1300.4	1300.4	1298.9	1298.9
7.5°	1291.2	1289.7	1288.2	1286.6	1283.6
10°	1275.9	1275.9	1274.4	1266.7	1265.2
12.5°	1251.4	1249.9	1243.7	1233.0	1229.9
15°	1217.7	1217.7	1205.4	1193.2	1188.6
17.5°	1180.9	1179.4	1164.1	1151.8	1145.7
20°	1141.1	1138.0	1122.7	1102.8	1092.1
22.5°	1096.7	1096.7	1078.3	1052.3	1041.6
25°	1055.3	1049.2	1032.4	995.6	968.0
27.5°	1007.9	998.7	980.3	928.2	896.0
30°	955.8	951.2	925.1	857.7	833.2
32.5°	906.8	899.1	871.5	801.1	781.2
35°	856.2	850.1	808.7	747.5	729.1
37.5°	805.7	798.0	745.9	696.9	673.9
40°	755.1	745.9	689.3	644.8	620.3
42.5°	707.6	695.4	640.2	592.8	565.2
45°	657.1	643.3	588.2	539.2	517.7
47.5°	606.6	594.3	543.8	493.2	468.7
50°	552.9	542.2	496.3	445.7	419.7
52.5°	508.5	491.7	447.3	396.7	375.3
55°	456.4	442.7	401.3	353.8	335.4
57.5°	409.0	395.2	356.9	312.5	297.1
60°	364.5	344.6	312.5	274.2	261.9
62.5°	315.5	300.2	272.6	240.5	255.8
65°	271.1	255.8	231.3	235.9	196.1
67.5°	222.1	214.4	193.0	171.5	165.4
70°	180.7	171.5	163.9	140.9	134.8
72.5°	144.0	134.8	124.1	111.8	107.2
75°	108.8	101.1	95.0	90.4	99.6
77.5°	75.1	72.0	67.4	62.8	61.3
80°	49.0	47.5	46.0	44.4	42.9
82.5°	29.1	29.1	29.1	29.1	29.1
85°	15.3	16.8	18.4	19.9	21.4
87.5°	9.2	9.2	10.7	12.3	13.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)