

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: P562452

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-82-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562452
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-50-UNV-82-86-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3143.0 lumens
Efficiency: N/A
Efficacy: 94.4 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

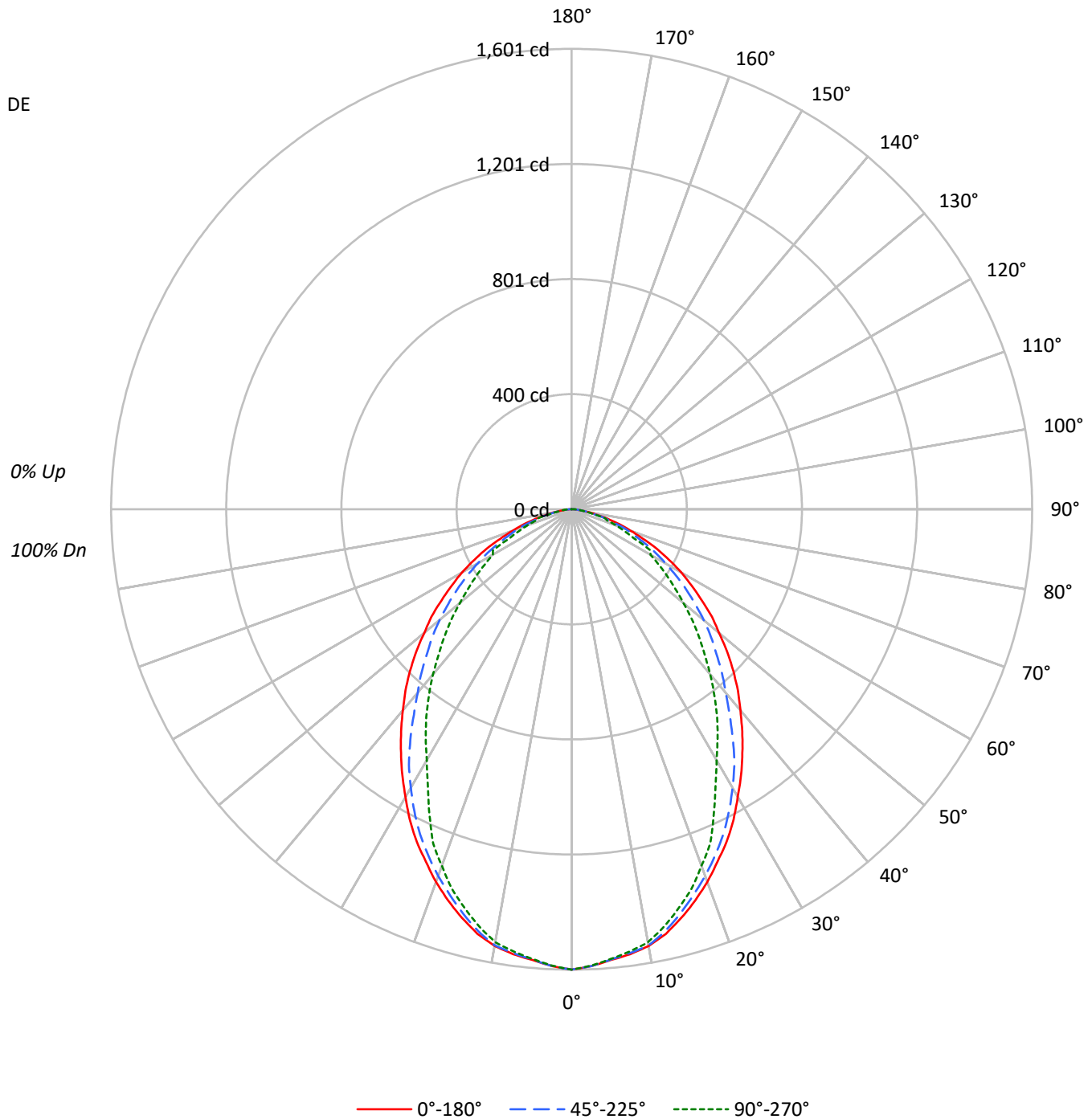
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2154	2154	2154
5°	2125	2122	2120
10°	2106	2104	2089
15°	2050	2029	2001
20°	1974	1943	1890
25°	1893	1852	1737
30°	1794	1737	1564
35°	1699	1605	1447
40°	1603	1463	1317
45°	1511	1352	1190
50°	1399	1255	1061
55°	1294	1137	951
60°	1185	1016	852
65°	1043	890	754
70°	859	779	641
75°	683	597	625
80°	459	430	401
85°	286	343	400

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1511 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.0	4.7
10°-20°	409.0	13.0
20°-30°	566.2	18.0
30°-40°	603.8	19.2
40°-50°	550.8	17.5
50°-60°	431.5	13.7
60°-70°	281.2	8.9
70°-80°	124.6	4.0
80°-90°	26.8	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°	1124.3	35.8
0°-40°	1728.1	55.0
0°-60°	2710.4	86.2
0°-90°	3143.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3143.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1601	1601	1601	1601	1601	
5°	1573	1571	1571	1570	1570	149
15°	1471	1471	1457	1442	1436	414
25°	1275	1268	1248	1203	1170	585
35°	1035	1027	977	903	881	647
45°	794	777	711	652	626	612
55°	552	535	485	428	405	495
65°	328	309	280	285	237	323
75°	131	122	115	109	120	141
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1601.0	1601.0	1601.0	1601.0	1601.0
2.5°	1589.9	1589.9	1589.9	1588.0	1588.0
5°	1573.2	1571.4	1571.4	1569.5	1569.5
7.5°	1560.3	1558.4	1556.6	1554.7	1551.0
10°	1541.8	1541.8	1539.9	1530.7	1528.8
12.5°	1512.2	1510.3	1502.9	1490.0	1486.2
15°	1471.4	1471.4	1456.6	1441.8	1436.3
17.5°	1427.0	1425.2	1406.7	1391.9	1384.5
20°	1378.9	1375.2	1356.7	1332.6	1319.7
22.5°	1325.2	1325.2	1303.0	1271.5	1258.6
25°	1275.2	1267.8	1247.5	1203.1	1169.7
27.5°	1217.9	1206.8	1184.6	1121.6	1082.8
30°	1154.9	1149.4	1117.9	1036.5	1006.9
32.5°	1095.7	1086.5	1053.1	968.0	943.9
35°	1034.6	1027.2	977.3	903.2	881.0
37.5°	973.6	964.3	901.4	842.1	814.4
40°	912.5	901.4	832.9	779.2	749.6
42.5°	855.1	840.3	773.7	716.3	683.0
45°	794.0	777.4	710.7	651.5	625.6
47.5°	732.9	718.1	657.1	596.0	566.4
50°	668.2	655.2	599.7	538.6	507.1
52.5°	614.5	594.1	540.5	479.4	453.5
55°	551.6	534.9	484.9	427.6	405.3
57.5°	494.2	477.5	431.3	377.6	359.1
60°	440.5	416.4	377.6	331.3	316.5
62.5°	381.3	362.8	329.5	290.6	309.1
65°	327.6	309.1	279.5	285.0	236.9
67.5°	268.4	259.1	233.2	207.3	199.9
70°	218.4	207.3	198.0	170.3	162.9
72.5°	174.0	162.9	149.9	135.1	129.6
75°	131.4	122.2	114.8	109.2	120.3
77.5°	90.7	87.0	81.4	75.9	74.0
80°	59.2	57.4	55.5	53.7	51.8
82.5°	35.2	35.2	35.2	35.2	35.2
85°	18.5	20.4	22.2	24.1	25.9
87.5°	11.1	11.1	13.0	14.8	16.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)