

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: P562446

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-81-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562446  
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-81-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

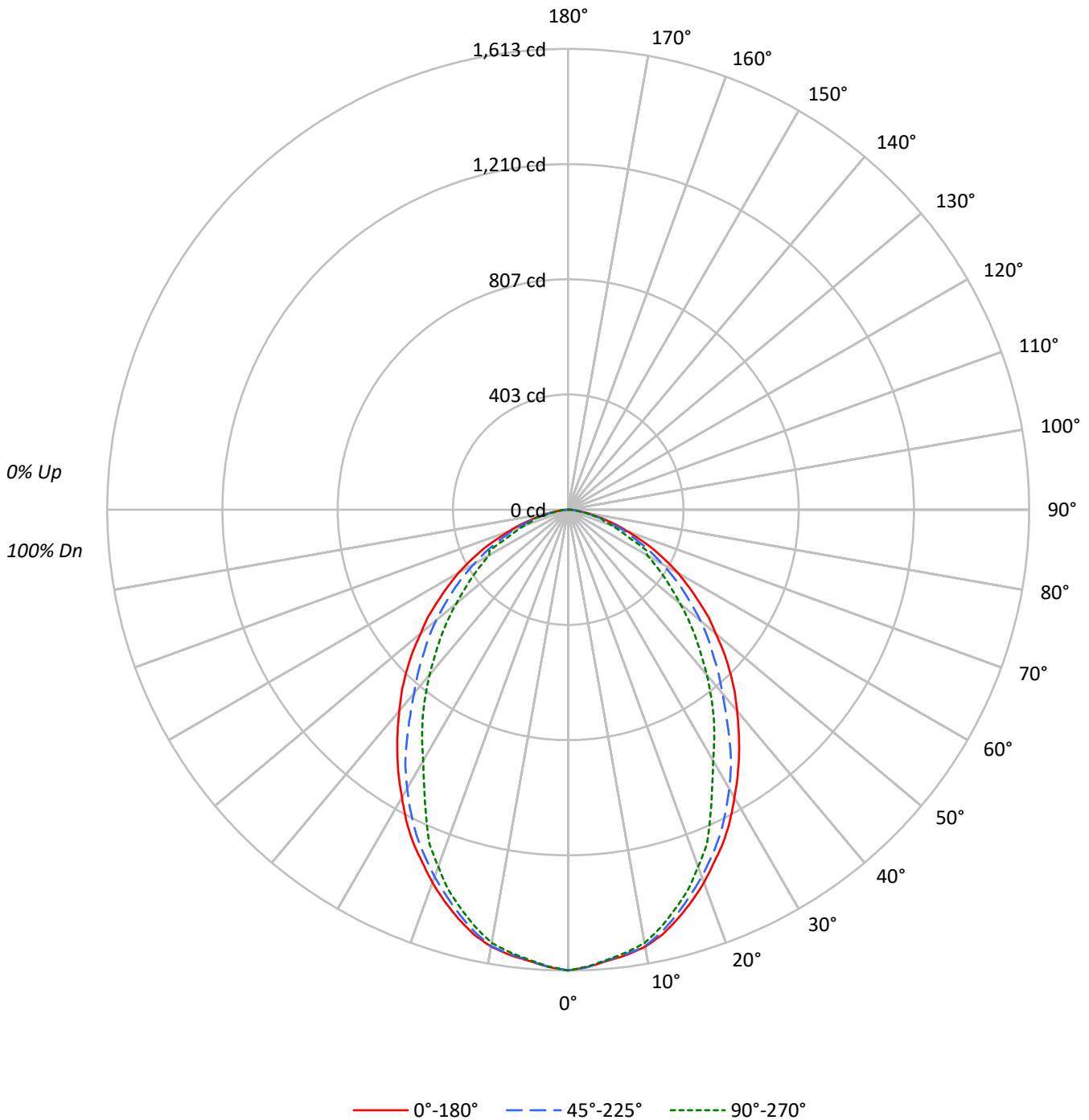
Lumens per Lamp: N/A  
Luminaire Lumens: 3166.0 lumens  
Efficiency: N/A  
Efficacy: 95.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	2170	2170	2170
5°	2140	2138	2135
10°	2122	2119	2104
15°	2065	2044	2015
20°	1989	1957	1903
25°	1907	1866	1749
30°	1808	1750	1576
35°	1712	1617	1458
40°	1614	1474	1326
45°	1522	1362	1199
50°	1409	1265	1069
55°	1303	1146	958
60°	1194	1023	858
65°	1051	896	760
70°	865	785	646
75°	688	601	630
80°	463	433	404
85°	287	346	403

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1522 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.1	4.7
10°-20°	412.0	13.0
20°-30°	570.4	18.0
30°-40°	608.2	19.2
40°-50°	554.9	17.5
50°-60°	434.7	13.7
60°-70°	283.3	8.9
70°-80°	125.5	4.0
80°-90°	26.9	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°	1132.5	35.8
0°-40°	1740.7	55.0
0°-60°	2730.2	86.2
0°-90°	3166.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3166.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1613	1613	1613	1613	1613	
5°	1585	1583	1583	1581	1581	150
15°	1482	1482	1467	1452	1447	417
25°	1285	1277	1257	1212	1178	590
35°	1042	1035	984	910	888	652
45°	800	783	716	656	630	616
55°	556	539	488	431	408	498
65°	330	311	282	287	239	325
75°	132	123	116	110	121	142
85°	19	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°	1612.7	1612.7	1612.7	1612.7	1612.7
2.5°	1601.5	1601.5	1601.5	1599.7	1599.7
5°	1584.8	1582.9	1582.9	1581.0	1581.0
7.5°	1571.7	1569.8	1568.0	1566.1	1562.4
10°	1553.1	1553.1	1551.2	1541.9	1540.0
12.5°	1523.2	1521.4	1513.9	1500.9	1497.1
15°	1482.2	1482.2	1467.3	1452.4	1446.8
17.5°	1437.5	1435.6	1417.0	1402.0	1394.6
20°	1389.0	1385.3	1366.6	1342.4	1329.3
22.5°	1334.9	1334.9	1312.5	1280.9	1267.8
25°	1284.6	1277.1	1256.6	1211.9	1178.3
27.5°	1226.8	1215.6	1193.2	1129.8	1090.7
30°	1163.4	1157.8	1126.1	1044.1	1014.2
32.5°	1103.7	1094.4	1060.9	975.1	950.9
35°	1042.2	1034.7	984.4	909.8	887.5
37.5°	980.7	971.4	908.0	848.3	820.3
40°	919.2	908.0	839.0	784.9	755.1
42.5°	861.4	846.4	779.3	721.5	688.0
45°	799.8	783.1	715.9	656.3	630.2
47.5°	738.3	723.4	661.9	600.3	570.5
50°	673.1	660.0	604.1	542.5	510.8
52.5°	619.0	598.5	544.4	482.9	456.8
55°	555.6	538.8	488.5	430.7	408.3
57.5°	497.8	481.0	434.4	380.3	361.7
60°	443.7	419.5	380.3	333.7	318.8
62.5°	384.1	365.4	331.9	292.7	311.4
65°	330.0	311.4	281.5	287.1	238.6
67.5°	270.3	261.0	234.9	208.8	201.4
70°	220.0	208.8	199.5	171.5	164.1
72.5°	175.3	164.1	151.0	136.1	130.5
75°	132.4	123.1	115.6	110.0	121.2
77.5°	91.4	87.6	82.0	76.4	74.6
80°	59.7	57.8	55.9	54.1	52.2
82.5°	35.4	35.4	35.4	35.4	35.4
85°	18.6	20.5	22.4	24.2	26.1
87.5°	11.2	11.2	13.1	14.9	16.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)