

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: P562603

Luminaire Tested: FSR-24-4-LD4-2HI-40-UNV-93-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562603  
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-LD4-2HI-40-UNV-93-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

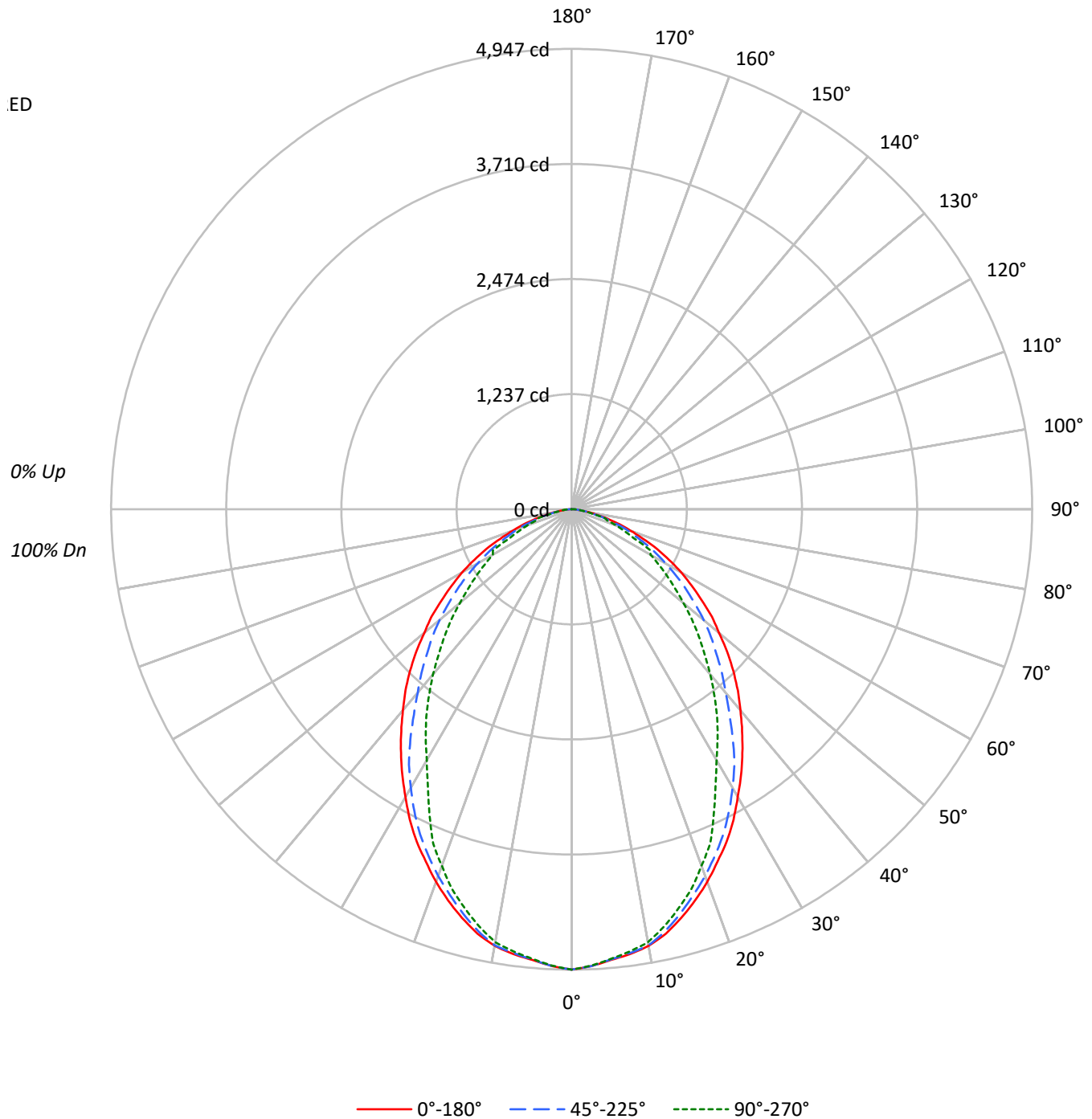
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9711.0 lumens  
Efficiency: N/A  
Efficacy: 112.4 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): 86.4  
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	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°	6656	6656	6656
5°	6565	6558	6550
10°	6508	6500	6454
15°	6333	6269	6182
20°	6100	6002	5838
25°	5850	5722	5366
30°	5544	5366	4833
35°	5251	4960	4471
40°	4952	4520	4068
45°	4668	4179	3678
50°	4321	3879	3280
55°	3998	3515	2938
60°	3662	3139	2632
65°	3223	2749	2330
70°	2655	2407	1980
75°	2111	1843	1932
80°	1418	1330	1241
85°	883	1059	1237

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4668 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	460.5	4.7
10°-20°	1263.7	13.0
20°-30°	1749.5	18.0
30°-40°	1865.5	19.2
40°-50°	1701.9	17.5
50°-60°	1333.3	13.7
60°-70°	869.0	8.9
70°-80°	385.0	4.0
80°-90°	82.7	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°	3473.7	35.8
0°-40°	5339.2	55.0
0°-60°	8374.4	86.2
0°-90°	9711.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9711.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4947	4947	4947	4947	4947	
5°	4861	4855	4855	4849	4849	461
15°	4546	4546	4501	4455	4438	1278
25°	3940	3917	3854	3717	3614	1809
35°	3197	3174	3020	2791	2722	1999
45°	2453	2402	2196	2013	1933	1890
55°	1704	1653	1498	1321	1252	1529
65°	1012	955	864	881	732	998
75°	406	377	355	337	372	435
85°	57	63	69	74	80	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4946.7	4946.7	4946.7	4946.7	4946.7
2.5°	4912.3	4912.3	4912.3	4906.6	4906.6
5°	4860.9	4855.2	4855.2	4849.4	4849.4
7.5°	4820.8	4815.1	4809.4	4803.7	4792.2
10°	4763.7	4763.7	4757.9	4729.3	4723.6
12.5°	4672.2	4666.4	4643.6	4603.5	4592.1
15°	4546.3	4546.3	4500.6	4454.8	4437.7
17.5°	4409.1	4403.4	4346.2	4300.4	4277.6
20°	4260.4	4249.0	4191.8	4117.4	4077.4
22.5°	4094.6	4094.6	4025.9	3928.7	3888.7
25°	3940.2	3917.3	3854.4	3717.1	3614.2
27.5°	3762.9	3728.6	3660.0	3465.5	3345.4
30°	3568.5	3551.3	3454.1	3202.5	3111.0
32.5°	3385.5	3356.9	3253.9	2990.9	2916.5
35°	3196.7	3173.9	3019.5	2790.7	2722.1
37.5°	3008.0	2979.4	2785.0	2602.0	2516.2
40°	2819.3	2785.0	2573.4	2407.6	2316.1
42.5°	2642.0	2596.3	2390.4	2213.1	2110.2
45°	2453.3	2401.8	2196.0	2013.0	1932.9
47.5°	2264.6	2218.8	2030.1	1841.4	1749.9
50°	2064.4	2024.4	1852.9	1664.1	1566.9
52.5°	1898.6	1835.7	1669.9	1481.1	1401.1
55°	1704.2	1652.7	1498.3	1321.0	1252.4
57.5°	1526.9	1475.4	1332.5	1166.6	1109.4
60°	1361.0	1286.7	1166.6	1023.6	977.9
62.5°	1178.0	1120.9	1017.9	897.8	955.0
65°	1012.2	955.0	863.5	880.7	732.0
67.5°	829.2	800.6	720.6	640.5	617.6
70°	674.8	640.5	611.9	526.1	503.2
72.5°	537.6	503.2	463.2	417.5	400.3
75°	406.0	377.4	354.6	337.4	371.7
77.5°	280.2	268.8	251.6	234.5	228.7
80°	183.0	177.3	171.6	165.8	160.1
82.5°	108.7	108.7	108.7	108.7	108.7
85°	57.2	62.9	68.6	74.3	80.1
87.5°	34.3	34.3	40.0	45.7	51.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)