

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: P562763

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-81-94-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562763  
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-LD4-2LO-40-UNV-81-94-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

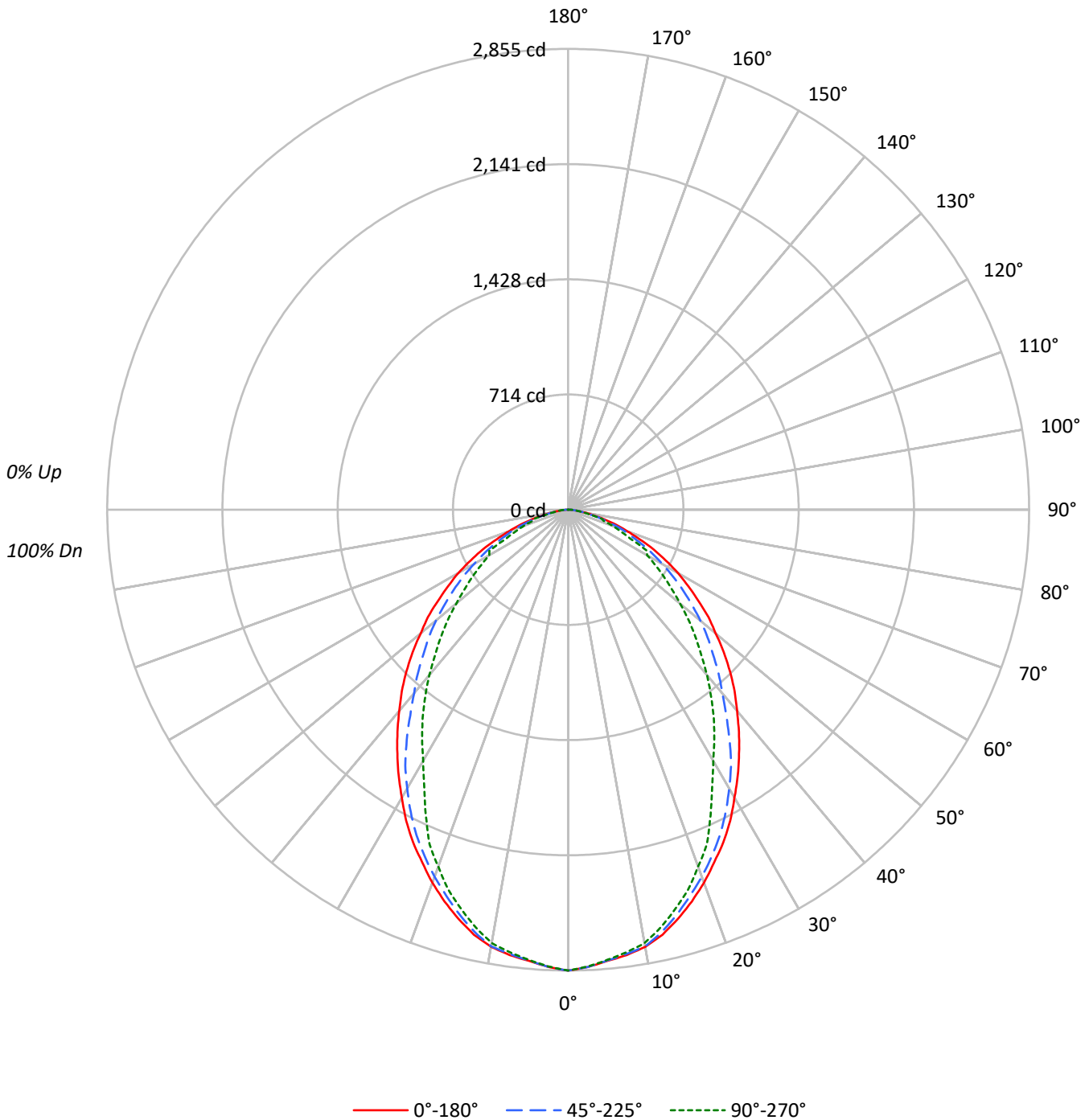
Lumens per Lamp: N/A  
Luminaire Lumens: 5605.0 lumens  
Efficiency: N/A  
Efficacy: 119.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3842	3842	3842
5°	3789	3785	3780
10°	3756	3752	3725
15°	3655	3618	3568
20°	3521	3464	3370
25°	3376	3303	3097
30°	3200	3097	2790
35°	3031	2863	2581
40°	2858	2609	2348
45°	2694	2412	2123
50°	2494	2238	1893
55°	2307	2029	1696
60°	2114	1812	1519
65°	1860	1587	1345
70°	1532	1389	1143
75°	1219	1064	1115
80°	818	767	716
85°	509	611	713

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2694 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	265.8	4.7
10°-20°	729.4	13.0
20°-30°	1009.8	18.0
30°-40°	1076.7	19.2
40°-50°	982.3	17.5
50°-60°	769.6	13.7
60°-70°	501.6	8.9
70°-80°	222.2	4.0
80°-90°	47.7	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°	2005.0	35.8
0°-40°	3081.7	55.0
0°-60°	4833.5	86.2
0°-90°	5605.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5605.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2855	2855	2855	2855	2855	
5°	2806	2802	2802	2799	2799	266
15°	2624	2624	2598	2571	2561	738
25°	2274	2261	2225	2146	2086	1044
35°	1845	1832	1743	1611	1571	1154
45°	1416	1386	1268	1162	1116	1091
55°	984	954	865	762	723	882
65°	584	551	498	508	422	576
75°	234	218	205	195	214	251
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2855.1	2855.1	2855.1	2855.1	2855.1
2.5°	2835.3	2835.3	2835.3	2832.0	2832.0
5°	2805.6	2802.3	2802.3	2799.0	2799.0
7.5°	2782.5	2779.2	2775.9	2772.6	2766.0
10°	2749.5	2749.5	2746.2	2729.7	2726.4
12.5°	2696.7	2693.4	2680.2	2657.1	2650.5
15°	2624.1	2624.1	2597.7	2571.3	2561.3
17.5°	2544.8	2541.5	2508.5	2482.1	2468.9
20°	2459.0	2452.4	2419.4	2376.5	2353.4
22.5°	2363.3	2363.3	2323.7	2267.6	2244.5
25°	2274.2	2261.0	2224.7	2145.5	2086.0
27.5°	2171.9	2152.1	2112.5	2000.2	1930.9
30°	2059.6	2049.7	1993.6	1848.4	1795.6
32.5°	1954.0	1937.5	1878.1	1726.3	1683.4
35°	1845.1	1831.9	1742.8	1610.7	1571.1
37.5°	1736.2	1719.7	1607.4	1501.8	1452.3
40°	1627.2	1607.4	1485.3	1389.6	1336.8
42.5°	1524.9	1498.5	1379.7	1277.4	1218.0
45°	1416.0	1386.3	1267.5	1161.8	1115.6
47.5°	1307.1	1280.7	1171.8	1062.8	1010.0
50°	1191.6	1168.5	1069.4	960.5	904.4
52.5°	1095.8	1059.5	963.8	854.9	808.7
55°	983.6	953.9	864.8	762.5	722.9
57.5°	881.3	851.6	769.1	673.3	640.3
60°	785.6	742.7	673.3	590.8	564.4
62.5°	679.9	646.9	587.5	518.2	551.2
65°	584.2	551.2	498.4	508.3	422.5
67.5°	478.6	462.1	415.9	369.7	356.5
70°	389.5	369.7	353.2	303.7	290.5
72.5°	310.3	290.5	267.4	241.0	231.0
75°	234.4	217.8	204.6	194.7	214.5
77.5°	161.7	155.1	145.2	135.3	132.0
80°	105.6	102.3	99.0	95.7	92.4
82.5°	62.7	62.7	62.7	62.7	62.7
85°	33.0	36.3	39.6	42.9	46.2
87.5°	19.8	19.8	23.1	26.4	29.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)