

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: P562793

Luminaire Tested: FSR-24-4-LD4-2LO-40-UNV-93-88-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562793  
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-93-88-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

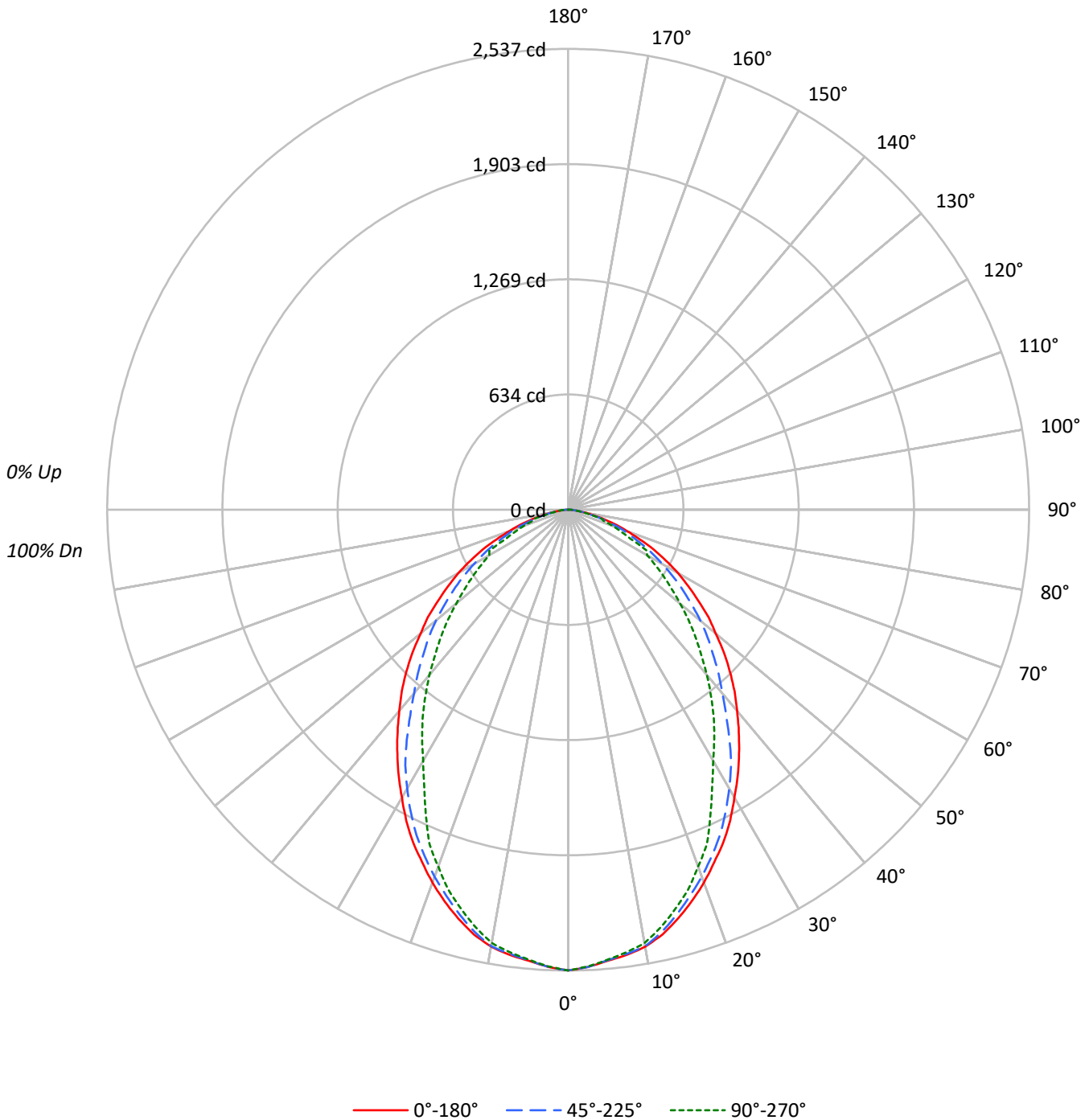
Lumens per Lamp: N/A  
Luminaire Lumens: 4980.0 lumens  
Efficiency: N/A  
Efficacy: 106.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 46.8  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3413	3413	3413
5°	3367	3363	3359
10°	3338	3334	3310
15°	3248	3215	3170
20°	3128	3078	2994
25°	3000	2934	2752
30°	2843	2752	2479
35°	2693	2543	2293
40°	2539	2318	2086
45°	2394	2143	1886
50°	2216	1989	1682
55°	2050	1803	1507
60°	1878	1610	1350
65°	1653	1410	1195
70°	1362	1234	1015
75°	1082	945	991
80°	727	682	636
85°	452	543	634

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2394 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	236.1	4.7
10°-20°	648.1	13.0
20°-30°	897.2	18.0
30°-40°	956.7	19.2
40°-50°	872.8	17.5
50°-60°	683.7	13.7
60°-70°	445.6	8.9
70°-80°	197.4	4.0
80°-90°	42.4	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°	1781.4	35.8
0°-40°	2738.1	55.0
0°-60°	4294.5	86.2
0°-90°	4980.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4980.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2537	2537	2537	2537	2537	
5°	2493	2490	2490	2487	2487	237
15°	2332	2332	2308	2284	2276	655
25°	2021	2009	1977	1906	1853	928
35°	1639	1628	1548	1431	1396	1025
45°	1258	1232	1126	1032	991	969
55°	874	848	768	677	642	784
65°	519	490	443	452	375	512
75°	208	194	182	173	191	223
85°	29	32	35	38	41	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2536.7	2536.7	2536.7	2536.7	2536.7
2.5°	2519.1	2519.1	2519.1	2516.2	2516.2
5°	2492.8	2489.8	2489.8	2486.9	2486.9
7.5°	2472.2	2469.3	2466.4	2463.4	2457.6
10°	2442.9	2442.9	2440.0	2425.3	2422.4
12.5°	2396.0	2393.0	2381.3	2360.8	2354.9
15°	2331.5	2331.5	2308.0	2284.5	2275.7
17.5°	2261.1	2258.1	2228.8	2205.4	2193.6
20°	2184.8	2179.0	2149.6	2111.5	2091.0
22.5°	2099.8	2099.8	2064.6	2014.7	1994.2
25°	2020.6	2008.9	1976.6	1906.2	1853.4
27.5°	1929.7	1912.1	1876.9	1777.2	1715.6
30°	1830.0	1821.2	1771.3	1642.3	1595.4
32.5°	1736.1	1721.5	1668.7	1533.8	1495.7
35°	1639.4	1627.6	1548.4	1431.1	1395.9
37.5°	1542.6	1527.9	1428.2	1334.4	1290.4
40°	1445.8	1428.2	1319.7	1234.6	1187.7
42.5°	1354.9	1331.4	1225.8	1134.9	1082.1
45°	1258.1	1231.7	1126.1	1032.3	991.2
47.5°	1161.3	1137.9	1041.1	944.3	897.4
50°	1058.7	1038.2	950.2	853.4	803.5
52.5°	973.6	941.4	856.3	759.6	718.5
55°	873.9	847.5	768.4	677.4	642.3
57.5°	783.0	756.6	683.3	598.3	568.9
60°	698.0	659.8	598.3	524.9	501.5
62.5°	604.1	574.8	522.0	460.4	489.8
65°	519.1	489.8	442.8	451.6	375.4
67.5°	425.2	410.6	369.5	328.5	316.7
70°	346.1	328.5	313.8	269.8	258.1
72.5°	275.7	258.1	237.5	214.1	205.3
75°	208.2	193.6	181.8	173.0	190.6
77.5°	143.7	137.8	129.0	120.2	117.3
80°	93.8	90.9	88.0	85.0	82.1
82.5°	55.7	55.7	55.7	55.7	55.7
85°	29.3	32.3	35.2	38.1	41.1
87.5°	17.6	17.6	20.5	23.5	26.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)