

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: P562085

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-93-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562085  
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-LD4-1HI-40-UNV-93-86-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

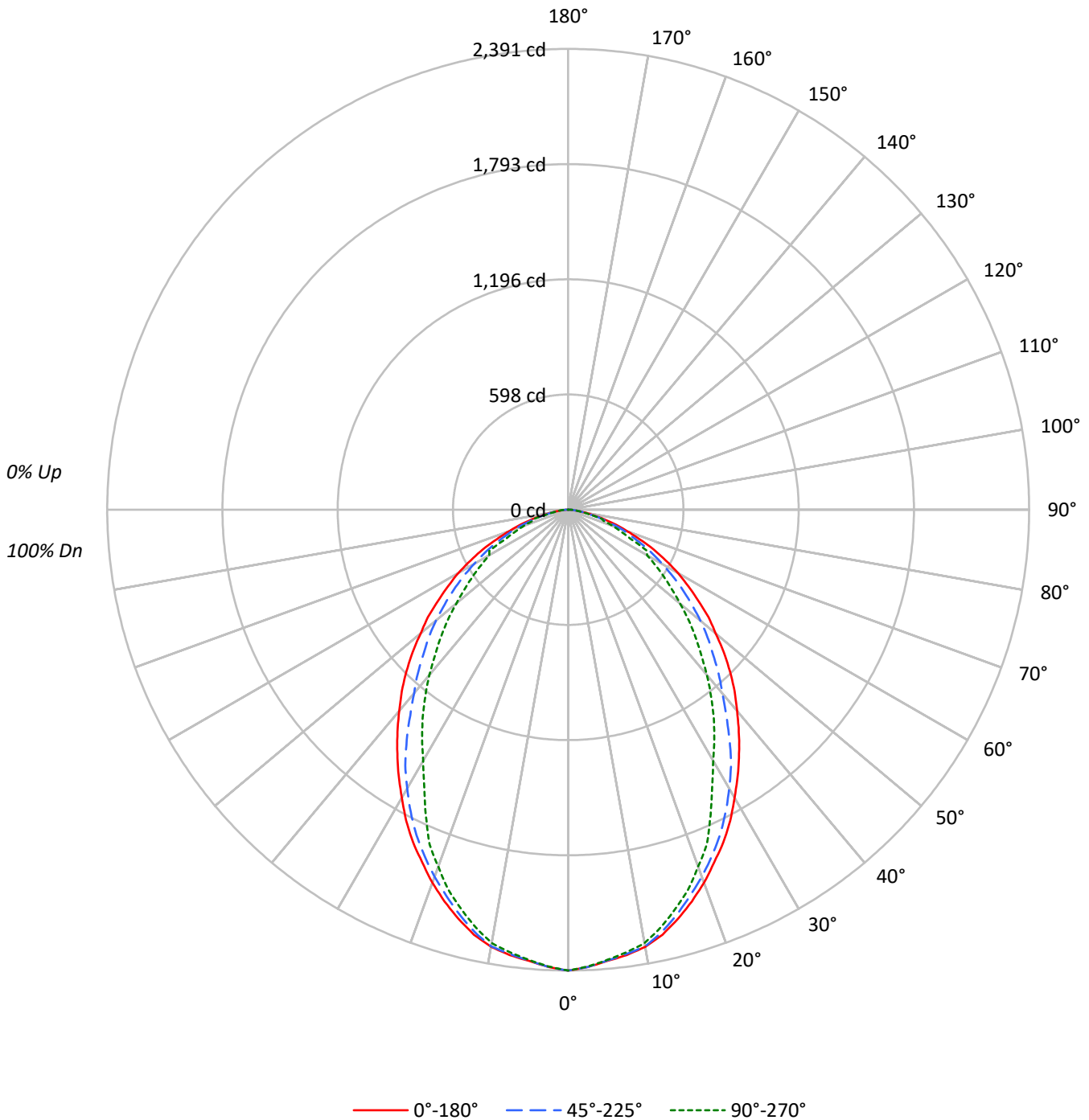
Lumens per Lamp: N/A  
Luminaire Lumens: 4694.0 lumens  
Efficiency: N/A  
Efficacy: 108.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	3217	3217	3217
5°	3173	3170	3166
10°	3146	3142	3120
15°	3061	3030	2988
20°	2949	2901	2822
25°	2828	2766	2594
30°	2680	2594	2336
35°	2538	2397	2161
40°	2394	2185	1966
45°	2257	2020	1778
50°	2089	1875	1585
55°	1932	1699	1420
60°	1770	1517	1272
65°	1558	1329	1126
70°	1283	1164	957
75°	1020	891	934
80°	686	642	600
85°	426	513	597

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 2257 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	222.6	4.7
10°-20°	610.8	13.0
20°-30°	845.7	18.0
30°-40°	901.7	19.2
40°-50°	822.6	17.5
50°-60°	644.5	13.7
60°-70°	420.0	8.9
70°-80°	186.1	4.0
80°-90°	39.9	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°	1679.1	35.8
0°-40°	2580.8	55.0
0°-60°	4047.9	86.2
0°-90°	4694.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4694.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2391	2391	2391	2391	2391	
5°	2350	2347	2347	2344	2344	223
15°	2198	2198	2176	2153	2145	618
25°	1905	1894	1863	1797	1747	874
35°	1545	1534	1460	1349	1316	966
45°	1186	1161	1062	973	934	913
55°	824	799	724	638	605	739
65°	489	462	417	426	354	482
75°	196	182	171	163	180	210
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2391.1	2391.1	2391.1	2391.1	2391.1
2.5°	2374.5	2374.5	2374.5	2371.7	2371.7
5°	2349.6	2346.8	2346.8	2344.1	2344.1
7.5°	2330.2	2327.5	2324.7	2322.0	2316.4
10°	2302.6	2302.6	2299.8	2286.0	2283.3
12.5°	2258.4	2255.6	2244.6	2225.2	2219.7
15°	2197.6	2197.6	2175.5	2153.3	2145.0
17.5°	2131.2	2128.5	2100.8	2078.7	2067.6
20°	2059.4	2053.8	2026.2	1990.2	1970.9
22.5°	1979.2	1979.2	1946.0	1899.0	1879.7
25°	1904.6	1893.5	1863.1	1796.8	1747.0
27.5°	1818.9	1802.3	1769.1	1675.1	1617.1
30°	1724.9	1716.6	1669.6	1548.0	1503.7
32.5°	1636.4	1622.6	1572.8	1445.7	1409.8
35°	1545.2	1534.1	1459.5	1348.9	1315.8
37.5°	1454.0	1440.2	1346.2	1257.7	1216.3
40°	1362.8	1346.2	1243.9	1163.7	1119.5
42.5°	1277.1	1255.0	1155.4	1069.8	1020.0
45°	1185.9	1161.0	1061.5	973.0	934.3
47.5°	1094.6	1072.5	981.3	890.1	845.9
50°	997.9	978.5	895.6	804.4	757.4
52.5°	917.7	887.3	807.2	715.9	677.2
55°	823.7	798.9	724.2	638.5	605.4
57.5°	738.1	713.2	644.1	563.9	536.3
60°	657.9	622.0	563.9	494.8	472.7
62.5°	569.4	541.8	492.0	434.0	461.6
65°	489.3	461.6	417.4	425.7	353.8
67.5°	400.8	387.0	348.3	309.6	298.5
70°	326.2	309.6	295.8	254.3	243.3
72.5°	259.8	243.3	223.9	201.8	193.5
75°	196.3	182.4	171.4	163.1	179.7
77.5°	135.4	129.9	121.6	113.3	110.6
80°	88.5	85.7	82.9	80.2	77.4
82.5°	52.5	52.5	52.5	52.5	52.5
85°	27.6	30.4	33.2	35.9	38.7
87.5°	16.6	16.6	19.3	22.1	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)