

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: P562261

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-82-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562261  
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-LD4-1LO-50-UNV-82-86-EDD  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

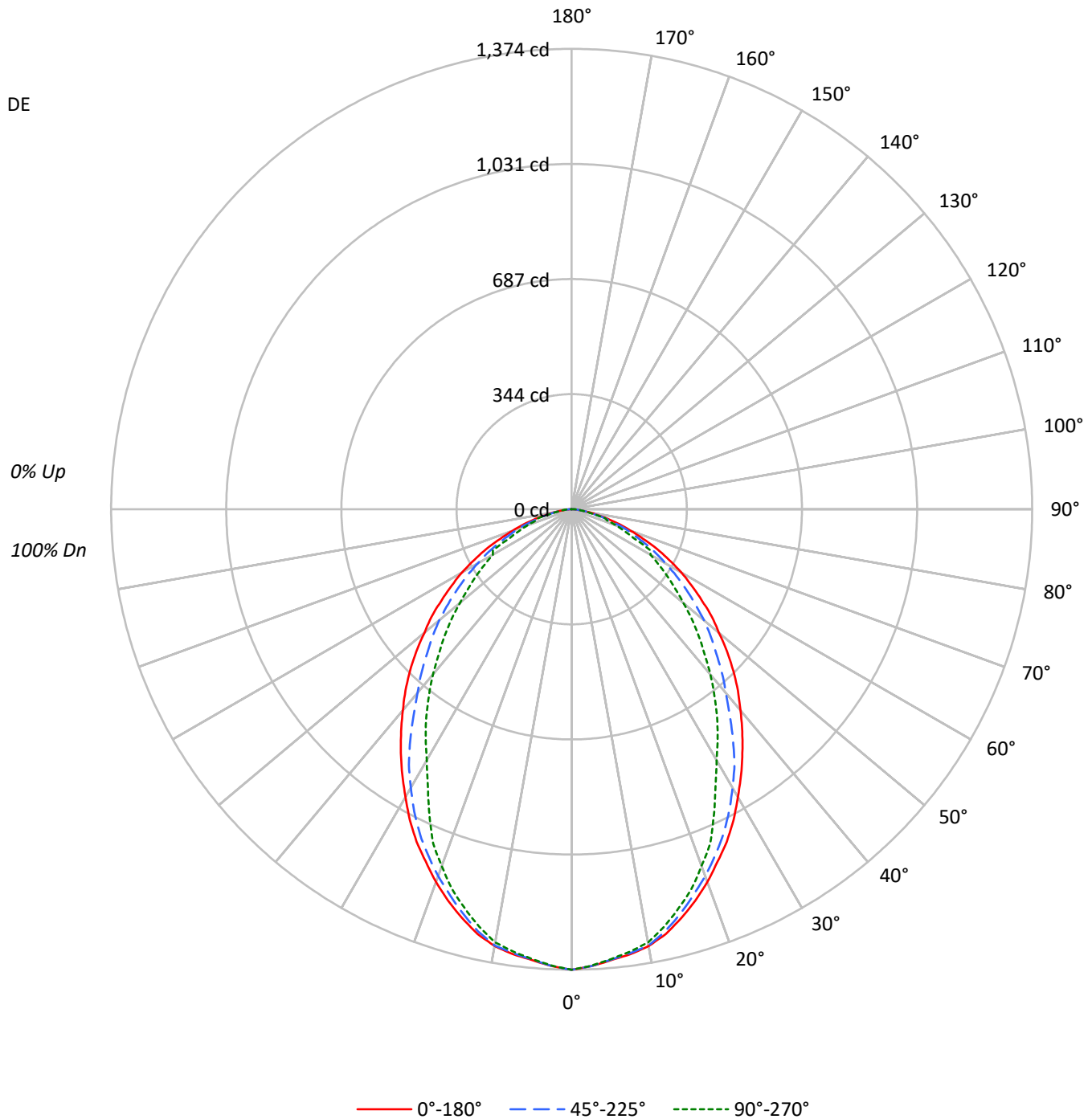
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2698.0 lumens  
Efficiency: N/A  
Efficacy: 115.3 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): 23.4  
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	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°	1849	1849	1849
5°	1824	1822	1820
10°	1808	1806	1793
15°	1759	1742	1717
20°	1695	1668	1622
25°	1625	1590	1491
30°	1540	1491	1343
35°	1459	1378	1242
40°	1376	1256	1130
45°	1297	1161	1022
50°	1201	1078	911
55°	1111	977	816
60°	1017	872	731
65°	895	764	648
70°	738	669	550
75°	586	512	537
80°	394	370	345
85°	245	295	343

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1297 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	127.9	4.7
10°-20°	351.1	13.0
20°-30°	486.1	18.0
30°-40°	518.3	19.2
40°-50°	472.8	17.5
50°-60°	370.4	13.7
60°-70°	241.4	8.9
70°-80°	107.0	4.0
80°-90°	23.0	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°	965.1	35.8
0°-40°	1483.4	55.0
0°-60°	2326.6	86.2
0°-90°	2698.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2698.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1374	1374	1374	1374	1374	
5°	1350	1349	1349	1347	1347	128
15°	1263	1263	1250	1238	1233	355
25°	1095	1088	1071	1033	1004	503
35°	888	882	839	775	756	555
45°	682	667	610	559	537	525
55°	474	459	416	367	348	425
65°	281	265	240	245	203	277
75°	113	105	98	94	103	121
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1374.3	1374.3	1374.3	1374.3	1374.3
2.5°	1364.8	1364.8	1364.8	1363.2	1363.2
5°	1350.5	1348.9	1348.9	1347.3	1347.3
7.5°	1339.4	1337.8	1336.2	1334.6	1331.4
10°	1323.5	1323.5	1321.9	1314.0	1312.4
12.5°	1298.1	1296.5	1290.1	1279.0	1275.8
15°	1263.1	1263.1	1250.4	1237.7	1232.9
17.5°	1225.0	1223.4	1207.5	1194.8	1188.4
20°	1183.7	1180.5	1164.6	1143.9	1132.8
22.5°	1137.6	1137.6	1118.5	1091.5	1080.4
25°	1094.7	1088.3	1070.9	1032.7	1004.1
27.5°	1045.4	1035.9	1016.8	962.8	929.5
30°	991.4	986.7	959.6	889.7	864.3
32.5°	940.6	932.6	904.0	831.0	810.3
35°	888.1	881.8	838.9	775.3	756.3
37.5°	835.7	827.8	773.8	722.9	699.1
40°	783.3	773.8	715.0	668.9	643.5
42.5°	734.0	721.3	664.1	614.9	586.3
45°	681.6	667.3	610.1	559.3	537.0
47.5°	629.2	616.5	564.0	511.6	486.2
50°	573.6	562.4	514.8	462.3	435.3
52.5°	527.5	510.0	463.9	411.5	389.3
55°	473.5	459.2	416.3	367.0	348.0
57.5°	424.2	409.9	370.2	324.1	308.2
60°	378.1	357.5	324.1	284.4	271.7
62.5°	327.3	311.4	282.8	249.4	265.3
65°	281.2	265.3	239.9	244.7	203.4
67.5°	230.4	222.4	200.2	177.9	171.6
70°	187.5	177.9	170.0	146.2	139.8
72.5°	149.3	139.8	128.7	116.0	111.2
75°	112.8	104.9	98.5	93.7	103.3
77.5°	77.9	74.7	69.9	65.1	63.6
80°	50.8	49.3	47.7	46.1	44.5
82.5°	30.2	30.2	30.2	30.2	30.2
85°	15.9	17.5	19.1	20.7	22.2
87.5°	9.5	9.5	11.1	12.7	14.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)