

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: P562416

Luminaire Tested: FSR-24-4-LD4-1STD-50-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562416  
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-LD4-1STD-50-UNV-80-84-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

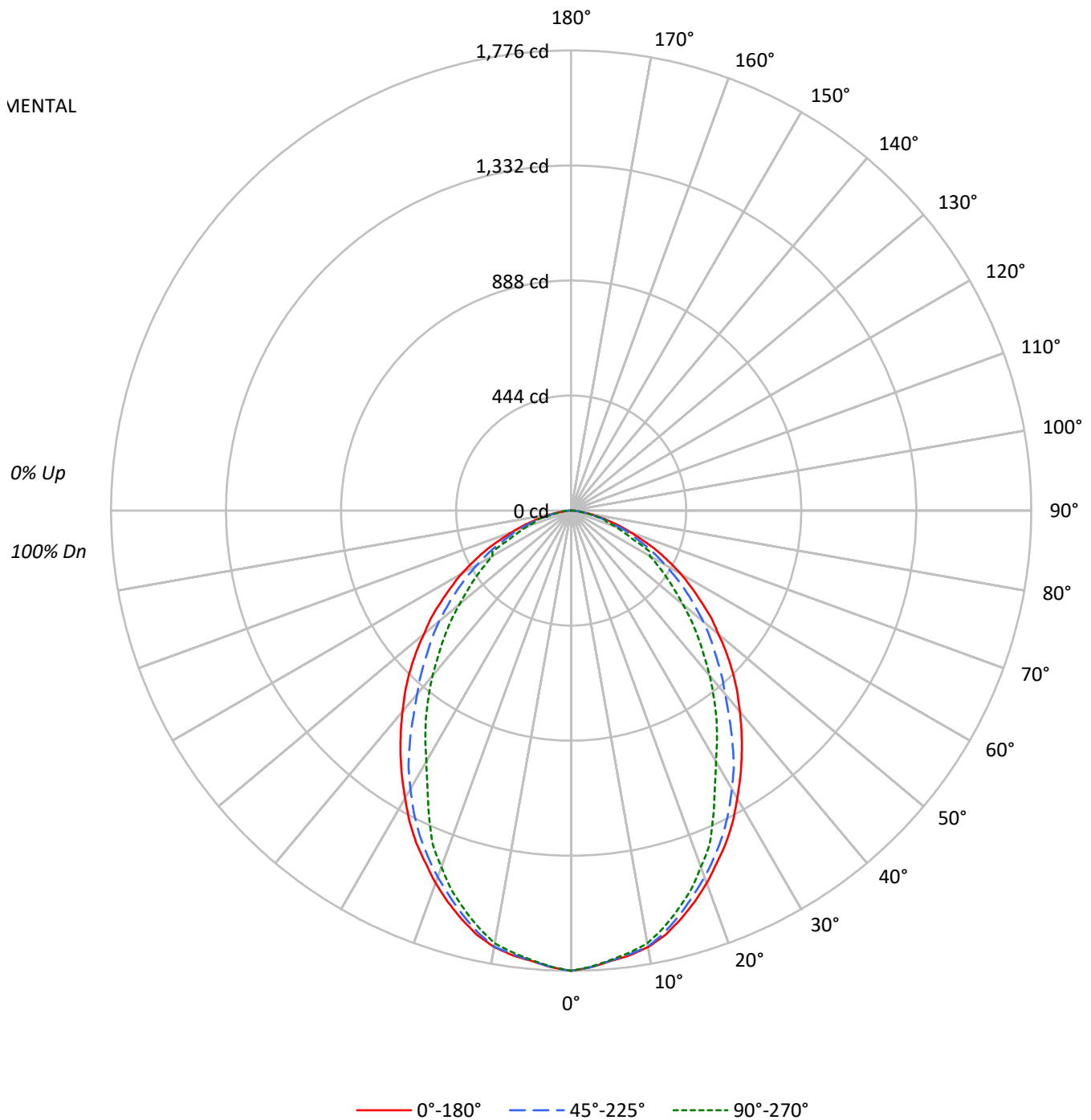
Lumens per Lamp: N/A  
Luminaire Lumens: 3487.0 lumens  
Efficiency: N/A  
Efficacy: 104.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2390	2390	2390
5°	2357	2355	2352
10°	2337	2334	2317
15°	2274	2251	2220
20°	2190	2155	2096
25°	2100	2055	1927
30°	1991	1927	1736
35°	1885	1781	1605
40°	1778	1623	1461
45°	1676	1500	1321
50°	1552	1393	1178
55°	1435	1262	1055
60°	1315	1127	945
65°	1157	987	837
70°	953	864	711
75°	758	662	694
80°	509	477	446
85°	316	380	443

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1676 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	165.3	4.7
10°-20°	453.8	13.0
20°-30°	628.2	18.0
30°-40°	669.9	19.2
40°-50°	611.1	17.5
50°-60°	478.7	13.7
60°-70°	312.0	8.9
70°-80°	138.2	4.0
80°-90°	29.7	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°	1247.3	35.8
0°-40°	1917.2	55.0
0°-60°	3007.0	86.2
0°-90°	3487.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3487.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1776	1776	1776	1776	1776	
5°	1745	1743	1743	1741	1741	166
15°	1632	1632	1616	1600	1594	459
25°	1415	1407	1384	1335	1298	650
35°	1148	1140	1084	1002	977	718
45°	881	862	788	723	694	679
55°	612	593	538	474	450	549
65°	364	343	310	316	263	358
75°	146	136	127	121	134	156
85°	20	23	25	27	29	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1776.2	1776.2	1776.2	1776.2	1776.2
2.5°	1763.9	1763.9	1763.9	1761.9	1761.9
5°	1745.4	1743.4	1743.4	1741.3	1741.3
7.5°	1731.1	1729.0	1726.9	1724.9	1720.8
10°	1710.5	1710.5	1708.5	1698.2	1696.1
12.5°	1677.7	1675.6	1667.4	1653.0	1648.9
15°	1632.5	1632.5	1616.1	1599.6	1593.5
17.5°	1583.2	1581.2	1560.6	1544.2	1536.0
20°	1529.8	1525.7	1505.2	1478.5	1464.1
22.5°	1470.3	1470.3	1445.6	1410.7	1396.3
25°	1414.8	1406.6	1384.0	1334.7	1297.8
27.5°	1351.2	1338.8	1314.2	1244.4	1201.3
30°	1281.4	1275.2	1240.3	1149.9	1117.1
32.5°	1215.6	1205.4	1168.4	1074.0	1047.3
35°	1147.9	1139.7	1084.2	1002.1	977.4
37.5°	1080.1	1069.8	1000.0	934.3	903.5
40°	1012.3	1000.0	924.1	864.5	831.6
42.5°	948.7	932.3	858.3	794.7	757.7
45°	880.9	862.4	788.5	722.8	694.1
47.5°	813.2	796.7	729.0	661.2	628.4
50°	741.3	726.9	665.3	597.6	562.6
52.5°	681.7	659.2	599.6	531.8	503.1
55°	611.9	593.4	538.0	474.3	449.7
57.5°	548.3	529.8	478.5	418.9	398.4
60°	488.7	462.0	418.9	367.6	351.1
62.5°	423.0	402.5	365.5	322.4	342.9
65°	363.5	342.9	310.1	316.2	262.8
67.5°	297.7	287.5	258.7	230.0	221.8
70°	242.3	230.0	219.7	188.9	180.7
72.5°	193.0	180.7	166.3	149.9	143.7
75°	145.8	135.5	127.3	121.2	133.5
77.5°	100.6	96.5	90.4	84.2	82.1
80°	65.7	63.7	61.6	59.5	57.5
82.5°	39.0	39.0	39.0	39.0	39.0
85°	20.5	22.6	24.6	26.7	28.7
87.5°	12.3	12.3	14.4	16.4	18.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)