

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: P561976

Luminaire Tested: FSR-24-4-LD4-1HI-35-UNV-80-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561976  
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-35-UNV-80-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

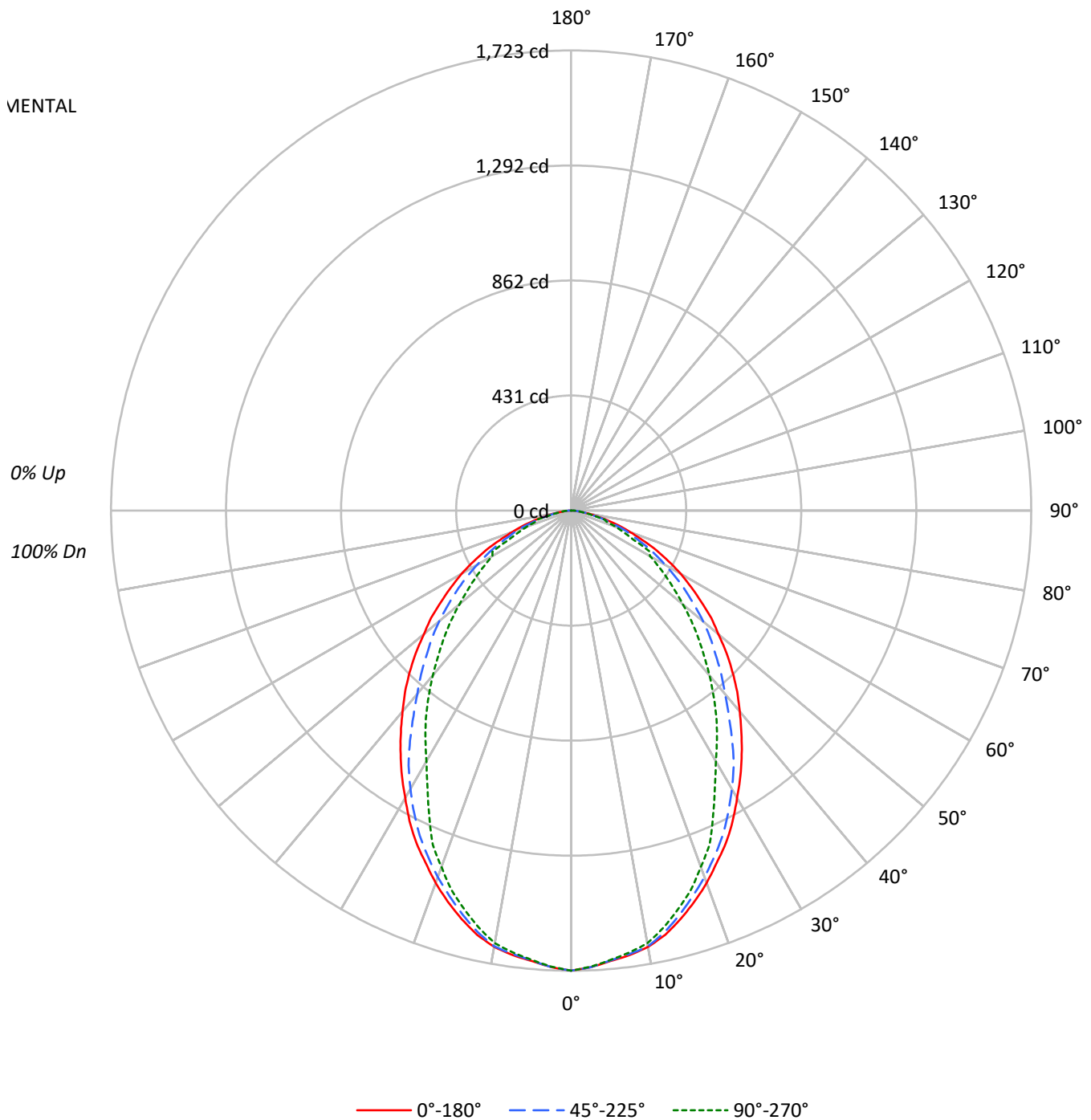
Lumens per Lamp: N/A  
Luminaire Lumens: 3382.0 lumens  
Efficiency: N/A  
Efficacy: 78.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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																												
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°	2318	2318	2318
5°	2286	2284	2281
10°	2267	2264	2248
15°	2205	2183	2153
20°	2125	2090	2033
25°	2037	1993	1869
30°	1931	1869	1683
35°	1829	1727	1557
40°	1725	1574	1417
45°	1626	1455	1281
50°	1505	1351	1142
55°	1392	1224	1023
60°	1276	1093	917
65°	1122	957	812
70°	924	838	690
75°	735	642	673
80°	494	463	432
85°	307	369	431

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1626 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.4	4.7
10°-20°	440.1	13.0
20°-30°	609.3	18.0
30°-40°	649.7	19.2
40°-50°	592.7	17.5
50°-60°	464.3	13.7
60°-70°	302.6	8.9
70°-80°	134.1	4.0
80°-90°	28.8	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°	1209.8	35.8
0°-40°	1859.4	55.0
0°-60°	2916.5	86.2
0°-90°	3382.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3382.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1723	1723	1723	1723	1723	
5°	1693	1691	1691	1689	1689	161
15°	1583	1583	1567	1552	1546	445
25°	1372	1364	1342	1294	1259	630
35°	1113	1105	1052	972	948	696
45°	854	836	765	701	673	658
55°	594	576	522	460	436	532
65°	352	333	301	307	255	347
75°	141	131	124	118	130	152
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1722.7	1722.7	1722.7	1722.7	1722.7
2.5°	1710.8	1710.8	1710.8	1708.8	1708.8
5°	1692.9	1690.9	1690.9	1688.9	1688.9
7.5°	1678.9	1676.9	1674.9	1673.0	1669.0
10°	1659.0	1659.0	1657.0	1647.1	1645.1
12.5°	1627.1	1625.2	1617.2	1603.2	1599.3
15°	1583.3	1583.3	1567.4	1551.5	1545.5
17.5°	1535.5	1533.5	1513.6	1497.7	1489.7
20°	1483.8	1479.8	1459.9	1434.0	1420.0
22.5°	1426.0	1426.0	1402.1	1368.2	1354.3
25°	1372.2	1364.3	1342.3	1294.5	1258.7
27.5°	1310.5	1298.5	1274.6	1206.9	1165.1
30°	1242.8	1236.8	1202.9	1115.3	1083.4
32.5°	1179.0	1169.1	1133.2	1041.6	1015.7
35°	1113.3	1105.3	1051.6	971.9	948.0
37.5°	1047.6	1037.6	969.9	906.2	876.3
40°	981.9	969.9	896.2	838.5	806.6
42.5°	920.1	904.2	832.5	770.8	734.9
45°	854.4	836.5	764.8	701.0	673.2
47.5°	788.7	772.7	707.0	641.3	609.4
50°	719.0	705.0	645.3	579.6	545.7
52.5°	661.2	639.3	581.6	515.8	487.9
55°	593.5	575.6	521.8	460.1	436.2
57.5°	531.8	513.8	464.0	406.3	386.4
60°	474.0	448.1	406.3	356.5	340.6
62.5°	410.3	390.4	354.5	312.7	332.6
65°	352.5	332.6	300.7	306.7	254.9
67.5°	288.8	278.8	250.9	223.1	215.1
70°	235.0	223.1	213.1	183.2	175.3
72.5°	187.2	175.3	161.3	145.4	139.4
75°	141.4	131.4	123.5	117.5	129.5
77.5°	97.6	93.6	87.6	81.7	79.7
80°	63.7	61.7	59.7	57.8	55.8
82.5°	37.8	37.8	37.8	37.8	37.8
85°	19.9	21.9	23.9	25.9	27.9
87.5°	11.9	11.9	13.9	15.9	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)