

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: P590518

Luminaire Tested: FSR-24-2-LD4-3LO-35-UNV-80-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590518  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-3LO-35-UNV-80-85-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

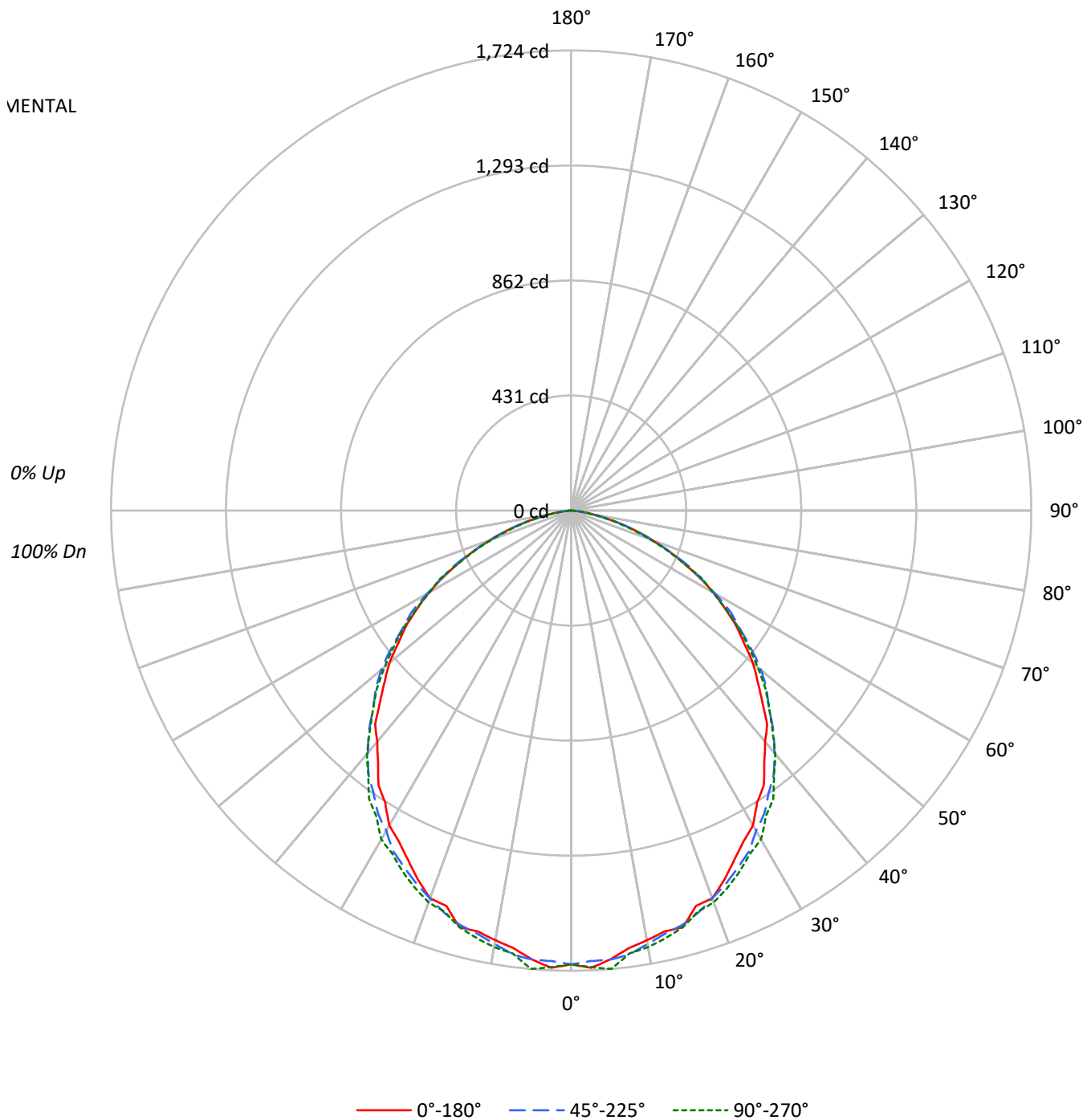
Lumens per Lamp: N/A  
Luminaire Lumens: 4284.0 lumens  
Efficiency: N/A  
Efficacy: 122.1 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
Input Voltage (V):  
Input Current (Ain): NR  
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	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86				86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73				73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62				62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53				53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46				46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41				41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36				36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32				32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29				29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26				26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4574	4574	4574
5°	4559	4561	4657
10°	4467	4506	4537
15°	4502	4478	4503
20°	4426	4426	4473
25°	4290	4384	4432
30°	4231	4305	4420
35°	4131	4239	4334
40°	3971	4162	4180
45°	3850	3987	3993
50°	3724	3892	3818
55°	3548	3617	3591
60°	3318	3351	3291
65°	2958	3034	2937
70°	2538	2547	2476
75°	2011	2006	1929
80°	1347	1309	1258
85°	732	726	676

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 4090 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	159.9	3.7
10°-20°	453.2	10.6
20°-30°	678.9	15.8
30°-40°	804.7	18.8
40°-50°	806.1	18.8
50°-60°	684.3	16.0
60°-70°	461.3	10.8
70°-80°	202.7	4.7
80°-90°	32.9	0.8
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°	1292.0	30.2
0°-40°	2096.6	48.9
0°-60°	3587.0	83.7
0°-90°	4284.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4284.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1700	1700	1700	1700	1700	
5°	1688	1684	1688	1683	1724	159
15°	1616	1597	1607	1616	1616	450
25°	1445	1453	1476	1496	1493	668
35°	1258	1261	1290	1320	1319	781
45°	1012	1031	1048	1075	1049	783
55°	756	751	771	766	766	673
65°	465	458	476	458	461	462
75°	193	189	193	179	186	207
85°	24	23	24	23	22	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1699.8	1699.8	1699.8	1699.8	1699.8
2.5°	1714.5	1701.5	1689.5	1703.5	1712.1
5°	1687.7	1683.8	1688.4	1683.3	1723.9
7.5°	1653.0	1668.2	1677.0	1671.5	1673.9
10°	1634.6	1629.3	1648.9	1662.5	1660.5
12.5°	1614.8	1622.7	1623.8	1638.6	1639.9
15°	1615.9	1597.3	1607.2	1615.5	1616.2
17.5°	1553.2	1573.4	1580.2	1599.3	1575.6
20°	1545.5	1530.8	1545.5	1565.0	1562.0
22.5°	1498.3	1481.9	1513.5	1530.8	1529.7
25°	1444.8	1452.7	1476.4	1495.7	1492.6
27.5°	1397.8	1407.0	1440.8	1467.4	1450.2
30°	1361.6	1357.0	1385.5	1409.2	1422.4
32.5°	1296.8	1313.5	1346.9	1370.4	1357.9
35°	1257.6	1261.3	1290.5	1320.3	1319.4
37.5°	1188.9	1206.2	1247.2	1255.6	1247.9
40°	1130.3	1147.6	1184.7	1193.7	1190.0
42.5°	1087.0	1090.1	1121.9	1132.2	1115.8
45°	1011.7	1030.6	1047.7	1074.7	1049.3
47.5°	947.7	956.4	993.3	1000.6	987.2
50°	889.5	892.6	929.7	920.7	911.9
52.5°	816.4	829.4	850.2	848.5	838.1
55°	756.3	751.2	771.0	765.7	765.5
57.5°	684.1	692.9	709.1	700.8	687.4
60°	616.5	616.7	622.6	613.2	611.4
62.5°	541.2	543.8	545.2	533.5	552.4
65°	464.6	458.5	476.5	458.3	461.3
67.5°	394.2	397.2	395.5	384.1	388.5
70°	322.6	326.6	323.7	310.8	314.7
72.5°	257.2	252.4	255.5	239.2	246.7
75°	193.4	189.4	192.9	179.3	185.5
77.5°	131.7	134.8	132.6	125.3	129.5
80°	86.9	84.5	84.5	80.3	81.2
82.5°	50.7	48.3	47.6	46.3	48.3
85°	23.7	23.0	23.5	22.8	21.9
87.5°	8.6	8.8	8.8	8.3	7.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)