

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: P560304

Luminaire Tested: FSR-12-2-LD4-2HI-50-UNV-80-84-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560304  
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-12-2-LD4-2HI-50-UNV-80-84-EDD-90  
Description: 1X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON  
SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

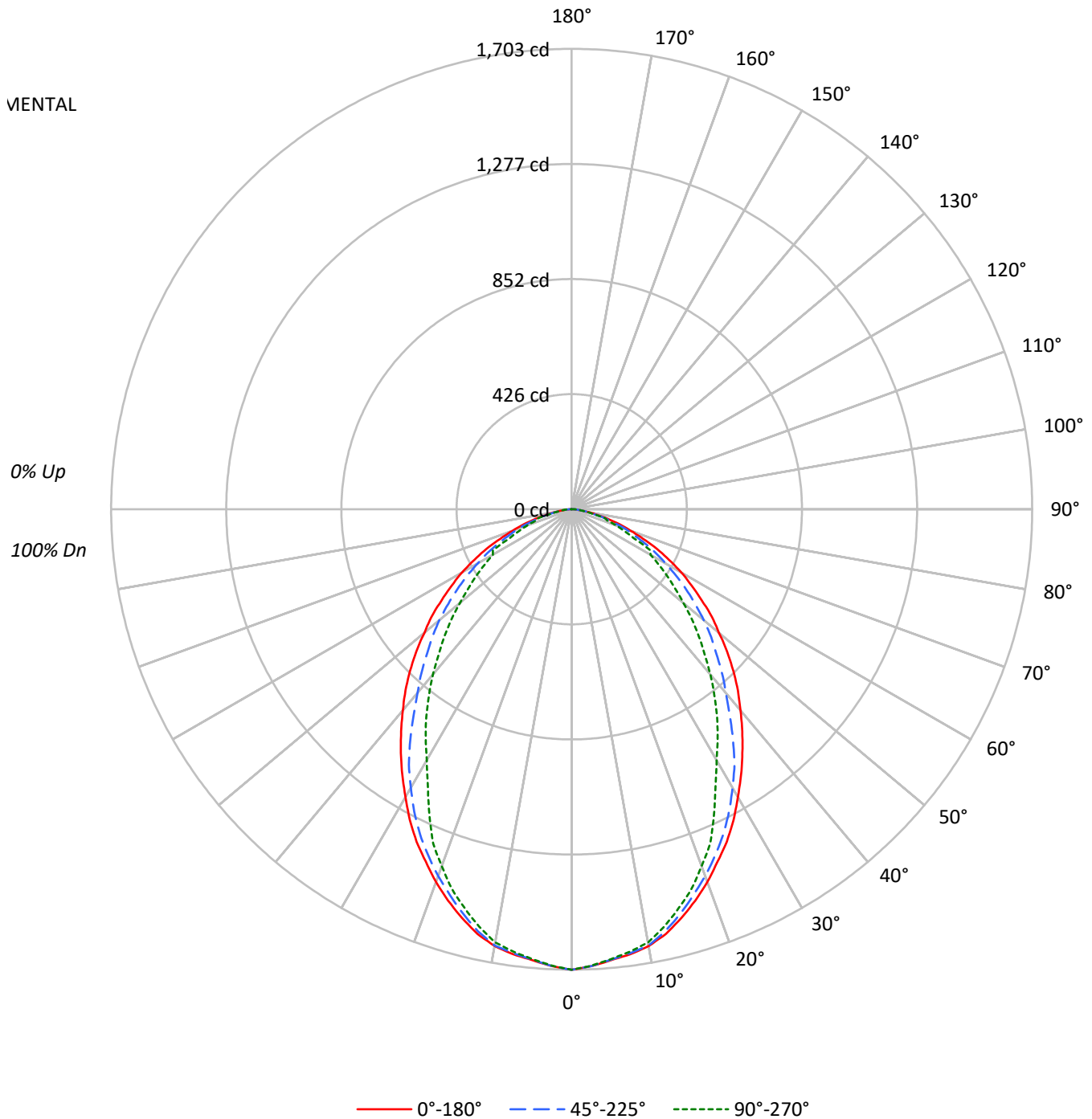
Lumens per Lamp: N/A  
Luminaire Lumens: 3344.0 lumens  
Efficiency: N/A  
Efficacy: 77.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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



TEST NUMBER: P560304

CATALOG NUMBER: FSR-12-2-LD4-2HI-50-UNV-80-84-EDD-90

### Luminous Intensity Polar Plot





TEST NUMBER: P560304

CATALOG NUMBER: FSR-12-2-LD4-2HI-50-UNV-80-84-EDD-90

**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°	9168	9168	9168
5°	9043	9032	9022
10°	8965	8954	8889
15°	8723	8635	8514
20°	8403	8267	8042
25°	8057	7882	7391
30°	7636	7392	6658
35°	7232	6832	6159
40°	6820	6226	5603
45°	6430	5756	5066
50°	5952	5342	4518
55°	5506	4841	4047
60°	5045	4324	3624
65°	4439	3787	3210
70°	3657	3316	2727
75°	2907	2539	2662
80°	1953	1832	1708
85°	1216	1457	1704

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6430 cd/sqm



TEST NUMBER: P560304

CATALOG NUMBER: FSR-12-2-LD4-2HI-50-UNV-80-84-EDD-90

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.6	4.7
10°-20°	435.2	13.0
20°-30°	602.5	18.0
30°-40°	642.4	19.2
40°-50°	586.0	17.5
50°-60°	459.1	13.7
60°-70°	299.3	8.9
70°-80°	132.6	4.0
80°-90°	28.5	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°	1196.2	35.8
0°-40°	1838.6	55.0
0°-60°	2883.7	86.2
0°-90°	3344.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3344.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1703	1703	1703	1703	1703	
5°	1674	1672	1672	1670	1670	159
15°	1566	1566	1550	1534	1528	440
25°	1357	1349	1327	1280	1245	623
35°	1101	1093	1040	961	937	688
45°	845	827	756	693	666	651
55°	587	569	516	455	431	526
65°	349	329	297	303	252	344
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



TEST NUMBER: P560304

CATALOG NUMBER: FSR-12-2-LD4-2HI-50-UNV-80-84-EDD-90

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1703.4	1703.4	1703.4	1703.4	1703.4
2.5°	1691.6	1691.6	1691.6	1689.6	1689.6
5°	1673.9	1671.9	1671.9	1669.9	1669.9
7.5°	1660.1	1658.1	1656.1	1654.2	1650.2
10°	1640.4	1640.4	1638.4	1628.6	1626.6
12.5°	1608.9	1606.9	1599.0	1585.2	1581.3
15°	1565.5	1565.5	1549.8	1534.0	1528.1
17.5°	1518.3	1516.3	1496.6	1480.9	1473.0
20°	1467.1	1463.1	1443.4	1417.8	1404.1
22.5°	1410.0	1410.0	1386.3	1352.9	1339.1
25°	1356.8	1348.9	1327.3	1280.0	1244.6
27.5°	1295.8	1283.9	1260.3	1193.4	1152.0
30°	1228.8	1222.9	1189.4	1102.8	1071.3
32.5°	1165.8	1155.9	1120.5	1029.9	1004.3
35°	1100.8	1092.9	1039.8	961.0	937.4
37.5°	1035.8	1026.0	959.0	896.0	866.5
40°	970.8	959.0	886.2	829.0	797.5
42.5°	909.8	894.0	823.1	762.1	726.6
45°	844.8	827.1	756.2	693.2	665.6
47.5°	779.8	764.1	699.1	634.1	602.6
50°	710.9	697.1	638.0	573.0	539.6
52.5°	653.8	632.1	575.0	510.0	482.5
55°	586.8	569.1	515.9	454.9	431.3
57.5°	525.8	508.1	458.8	401.7	382.0
60°	468.7	443.1	401.7	352.5	336.7
62.5°	405.7	386.0	350.5	309.2	328.9
65°	348.6	328.9	297.4	303.3	252.1
67.5°	285.5	275.7	248.1	220.6	212.7
70°	232.4	220.6	210.7	181.2	173.3
72.5°	185.1	173.3	159.5	143.8	137.8
75°	139.8	130.0	122.1	116.2	128.0
77.5°	96.5	92.6	86.6	80.7	78.8
80°	63.0	61.0	59.1	57.1	55.1
82.5°	37.4	37.4	37.4	37.4	37.4
85°	19.7	21.7	23.6	25.6	27.6
87.5°	11.8	11.8	13.8	15.8	17.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)