

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: P590328

Luminaire Tested: FSR-24-2-LD4-2STD-35-UNV-80-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590328  
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-LD4-2STD-35-UNV-80-87-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

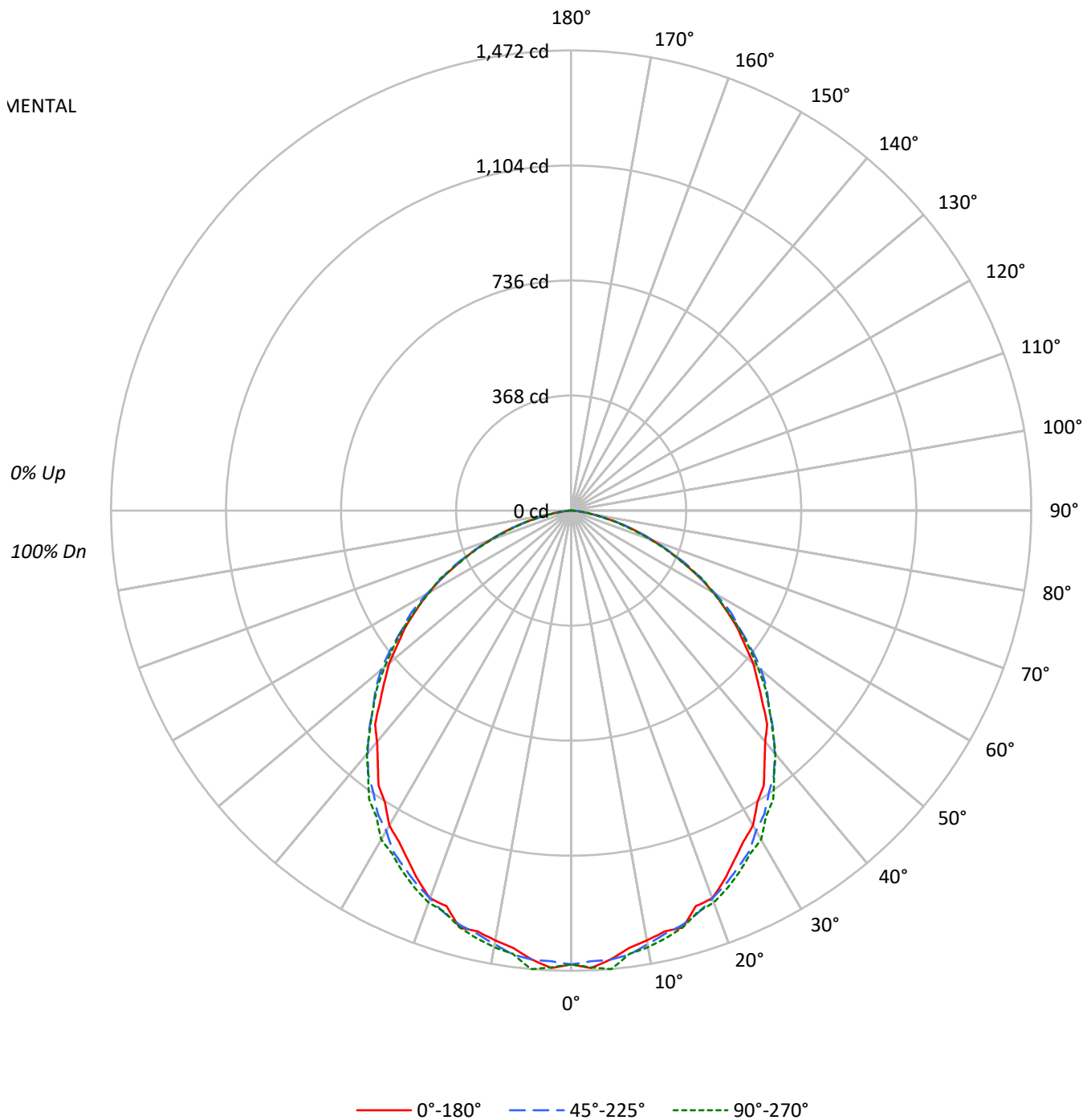
Lumens per Lamp: N/A  
Luminaire Lumens: 3659.0 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	3907	3907	3907
5°	3894	3895	3977
10°	3815	3848	3875
15°	3845	3824	3846
20°	3780	3780	3820
25°	3664	3744	3785
30°	3613	3677	3775
35°	3529	3621	3702
40°	3391	3555	3570
45°	3288	3406	3411
50°	3180	3324	3261
55°	3031	3089	3067
60°	2834	2862	2810
65°	2527	2592	2509
70°	2168	2175	2115
75°	1717	1713	1647
80°	1150	1119	1075
85°	624	621	577

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3493 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.6	3.7
10°-20°	387.0	10.6
20°-30°	579.9	15.8
30°-40°	687.3	18.8
40°-50°	688.5	18.8
50°-60°	584.4	16.0
60°-70°	394.0	10.8
70°-80°	173.1	4.7
80°-90°	28.1	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°	1103.5	30.2
0°-40°	1790.7	48.9
0°-60°	3063.7	83.7
0°-90°	3659.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3659.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1452	1452	1452	1452	1452	
5°	1442	1438	1442	1438	1472	136
15°	1380	1364	1373	1380	1380	385
25°	1234	1241	1261	1278	1275	570
35°	1074	1077	1102	1128	1127	667
45°	864	880	895	918	896	668
55°	646	642	658	654	654	575
65°	397	392	407	391	394	395
75°	165	162	165	153	158	177
85°	20	20	20	20	19	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1451.8	1451.8	1451.8	1451.8	1451.8
2.5°	1464.4	1453.3	1443.0	1455.0	1462.3
5°	1441.5	1438.1	1442.1	1437.7	1472.4
7.5°	1411.9	1424.8	1432.3	1427.6	1429.7
10°	1396.1	1391.6	1408.3	1419.9	1418.2
12.5°	1379.3	1386.0	1386.9	1399.5	1400.6
15°	1380.2	1364.3	1372.7	1379.8	1380.4
17.5°	1326.6	1343.8	1349.6	1365.9	1345.7
20°	1320.0	1307.5	1320.0	1336.7	1334.1
22.5°	1279.7	1265.7	1292.7	1307.5	1306.5
25°	1234.0	1240.7	1261.0	1277.5	1274.8
27.5°	1193.9	1201.7	1230.6	1253.3	1238.7
30°	1162.9	1159.0	1183.4	1203.6	1214.9
32.5°	1107.6	1121.9	1150.4	1170.4	1159.8
35°	1074.1	1077.3	1102.2	1127.7	1126.9
37.5°	1015.4	1030.2	1065.3	1072.4	1065.8
40°	965.4	980.2	1011.9	1019.5	1016.4
42.5°	928.4	931.1	958.2	967.1	953.0
45°	864.1	880.3	894.9	917.9	896.2
47.5°	809.4	816.9	848.4	854.6	843.1
50°	759.7	762.4	794.0	786.4	778.9
52.5°	697.3	708.4	726.2	724.7	715.9
55°	646.0	641.6	658.5	654.0	653.8
57.5°	584.3	591.8	605.7	598.5	587.1
60°	526.5	526.7	531.8	523.7	522.2
62.5°	462.3	464.5	465.6	455.7	471.8
65°	396.8	391.6	407.0	391.4	394.0
67.5°	336.7	339.3	337.8	328.0	331.8
70°	275.6	278.9	276.5	265.4	268.8
72.5°	219.7	215.6	218.2	204.3	210.7
75°	165.1	161.8	164.8	153.1	158.4
77.5°	112.5	115.1	113.2	107.0	110.6
80°	74.2	72.2	72.2	68.6	69.4
82.5°	43.3	41.2	40.7	39.6	41.2
85°	20.2	19.7	20.1	19.5	18.7
87.5°	7.3	7.5	7.5	7.1	6.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)