

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: P590329

Luminaire Tested: FSR-24-2-LD4-2STD-35-UNV-80-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590329  
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-80-88-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

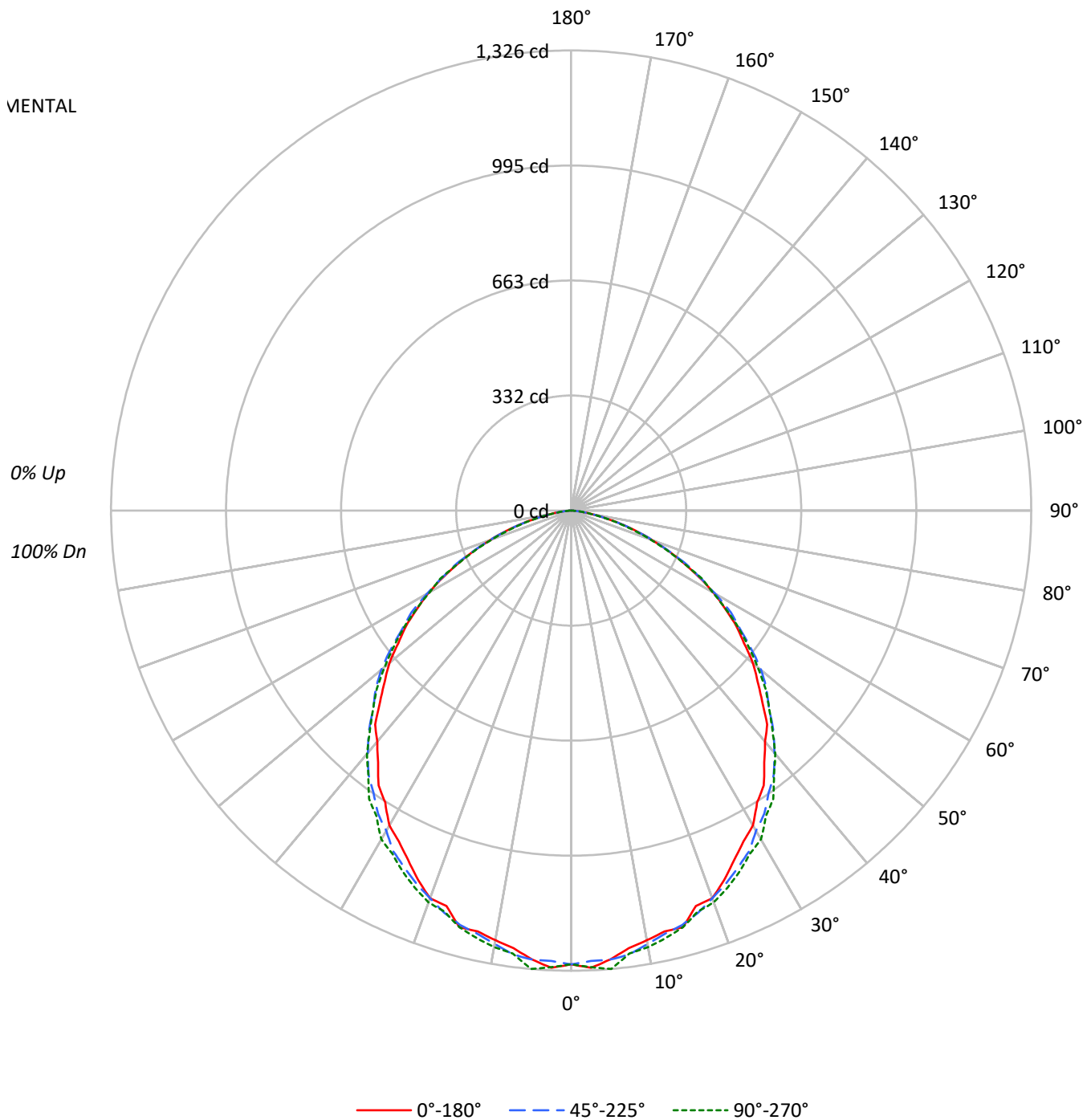
Lumens per Lamp: N/A  
Luminaire Lumens: 3295.0 lumens  
Efficiency: N/A  
Efficacy: 98.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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°	3518	3518	3518
5°	3507	3508	3582
10°	3435	3465	3490
15°	3463	3444	3463
20°	3404	3404	3440
25°	3299	3371	3409
30°	3254	3311	3399
35°	3177	3261	3334
40°	3054	3201	3215
45°	2962	3067	3071
50°	2864	2993	2936
55°	2729	2782	2762
60°	2552	2577	2531
65°	2276	2334	2259
70°	1952	1959	1905
75°	1546	1543	1483
80°	1035	1007	969
85°	562	559	522

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3146 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.0	3.7
10°-20°	348.5	10.6
20°-30°	522.2	15.8
30°-40°	618.9	18.8
40°-50°	620.0	18.8
50°-60°	526.3	16.0
60°-70°	354.8	10.8
70°-80°	155.9	4.7
80°-90°	25.3	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°	993.7	30.2
0°-40°	1612.6	48.9
0°-60°	2758.9	83.7
0°-90°	3295.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3295.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1307	1307	1307	1307	1307	
5°	1298	1295	1299	1295	1326	122
15°	1243	1228	1236	1243	1243	346
25°	1111	1117	1136	1150	1148	514
35°	967	970	993	1016	1015	601
45°	778	793	806	827	807	602
55°	582	578	593	589	589	517
65°	357	353	366	352	355	355
75°	149	146	148	138	143	159
85°	18	18	18	18	17	26
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1307.4	1307.4	1307.4	1307.4	1307.4
2.5°	1318.7	1308.7	1299.4	1310.2	1316.8
5°	1298.1	1295.1	1298.6	1294.7	1325.9
7.5°	1271.4	1283.1	1289.8	1285.6	1287.5
10°	1257.2	1253.2	1268.2	1278.7	1277.2
12.5°	1242.0	1248.1	1249.0	1260.3	1261.3
15°	1242.9	1228.5	1236.1	1242.6	1243.1
17.5°	1194.6	1210.1	1215.4	1230.1	1211.8
20°	1188.7	1177.4	1188.7	1203.7	1201.4
22.5°	1152.4	1139.8	1164.1	1177.4	1176.6
25°	1111.2	1117.3	1135.5	1150.4	1148.0
27.5°	1075.1	1082.2	1108.2	1128.6	1115.4
30°	1047.2	1043.7	1065.6	1083.9	1094.0
32.5°	997.5	1010.3	1035.9	1054.0	1044.4
35°	967.2	970.1	992.6	1015.5	1014.8
37.5°	914.4	927.7	959.3	965.7	959.8
40°	869.3	882.7	911.2	918.1	915.2
42.5°	836.1	838.4	862.9	870.9	858.2
45°	778.2	792.7	805.9	826.6	807.0
47.5°	728.9	735.6	764.0	769.6	759.3
50°	684.2	686.5	715.0	708.1	701.4
52.5°	627.9	637.9	653.9	652.6	644.7
55°	581.7	577.8	593.0	589.0	588.8
57.5°	526.2	532.9	545.4	539.0	528.7
60°	474.2	474.3	478.9	471.6	470.3
62.5°	416.3	418.3	419.3	410.4	424.9
65°	357.4	352.6	366.5	352.5	354.8
67.5°	303.2	305.5	304.2	295.4	298.8
70°	248.1	251.2	249.0	239.0	242.1
72.5°	197.8	194.1	196.5	184.0	189.7
75°	148.7	145.7	148.4	137.9	142.6
77.5°	101.3	103.6	102.0	96.4	99.6
80°	66.8	65.0	65.0	61.8	62.5
82.5°	39.0	37.1	36.6	35.6	37.1
85°	18.2	17.7	18.1	17.6	16.9
87.5°	6.6	6.8	6.8	6.4	6.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)