

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: P590361

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-80-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590361  
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-40-UNV-80-88-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON  
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

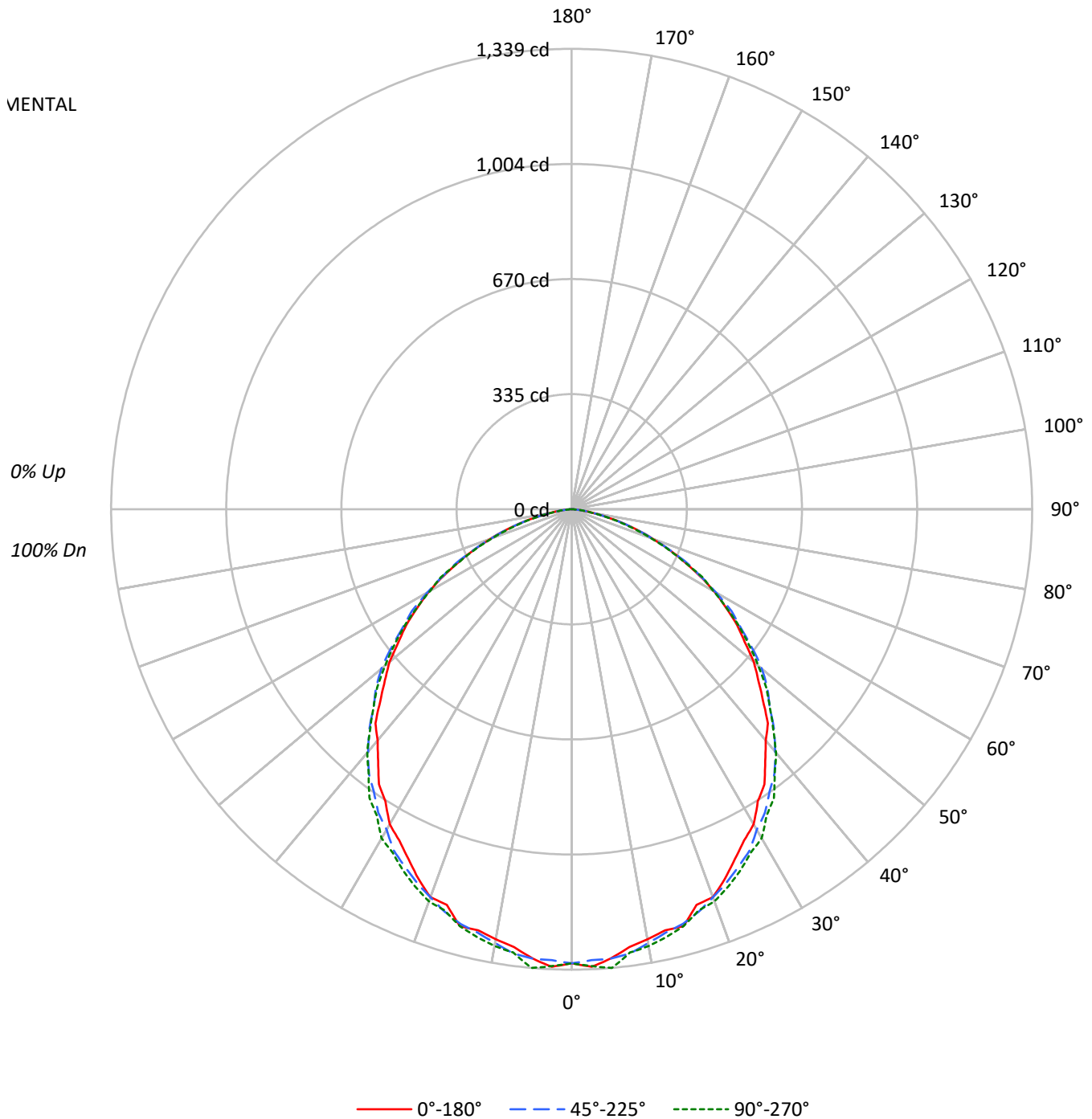
Lumens per Lamp: N/A  
Luminaire Lumens: 3328.0 lumens  
Efficiency: N/A  
Efficacy: 99.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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°	3553	3553	3553
5°	3542	3543	3618
10°	3470	3500	3525
15°	3497	3478	3498
20°	3438	3438	3475
25°	3333	3405	3443
30°	3287	3344	3434
35°	3209	3293	3367
40°	3084	3233	3247
45°	2991	3097	3102
50°	2893	3023	2966
55°	2756	2810	2790
60°	2577	2603	2556
65°	2298	2357	2282
70°	1972	1979	1924
75°	1562	1559	1498
80°	1046	1017	978
85°	568	562	525

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3177 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	124.2	3.7
10°-20°	352.0	10.6
20°-30°	527.4	15.8
30°-40°	625.1	18.8
40°-50°	626.2	18.8
50°-60°	531.6	16.0
60°-70°	358.4	10.8
70°-80°	157.5	4.7
80°-90°	25.6	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°	1003.6	30.2
0°-40°	1628.7	48.9
0°-60°	2786.5	83.7
0°-90°	3328.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3328.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1320	1320	1320	1320	1320	
5°	1311	1308	1312	1308	1339	124
15°	1255	1241	1248	1255	1256	350
25°	1122	1128	1147	1162	1160	519
35°	977	980	1002	1026	1025	607
45°	786	801	814	835	815	608
55°	588	584	599	595	595	523
65°	361	356	370	356	358	359
75°	150	147	150	139	144	161
85°	18	18	18	18	17	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1320.5	1320.5	1320.5	1320.5	1320.5
2.5°	1331.9	1321.8	1312.5	1323.4	1330.0
5°	1311.1	1308.0	1311.6	1307.7	1339.2
7.5°	1284.2	1295.9	1302.7	1298.5	1300.3
10°	1269.8	1265.7	1280.9	1291.5	1289.9
12.5°	1254.5	1260.6	1261.5	1272.9	1273.9
15°	1255.3	1240.8	1248.5	1255.0	1255.5
17.5°	1206.6	1222.3	1227.5	1242.4	1224.0
20°	1200.6	1189.2	1200.6	1215.8	1213.4
22.5°	1164.0	1151.2	1175.7	1189.2	1188.3
25°	1122.4	1128.5	1146.9	1161.9	1159.5
27.5°	1085.9	1093.0	1119.3	1139.9	1126.6
30°	1057.7	1054.2	1076.3	1094.7	1105.0
32.5°	1007.4	1020.4	1046.3	1064.6	1054.8
35°	976.9	979.8	1002.5	1025.7	1025.0
37.5°	923.6	937.0	968.9	975.4	969.4
40°	878.0	891.5	920.3	927.3	924.4
42.5°	844.5	846.8	871.6	879.6	866.8
45°	786.0	800.6	813.9	834.9	815.1
47.5°	736.2	743.0	771.7	777.3	766.9
50°	691.0	693.4	722.2	715.2	708.4
52.5°	634.2	644.3	660.5	659.1	651.1
55°	587.5	583.6	598.9	594.8	594.7
57.5°	531.4	538.2	550.9	544.4	534.0
60°	478.9	479.1	483.7	476.4	475.0
62.5°	420.4	422.5	423.5	414.5	429.1
65°	360.9	356.2	370.1	356.0	358.4
67.5°	306.2	308.6	307.2	298.4	301.8
70°	250.6	253.7	251.5	241.4	244.5
72.5°	199.8	196.1	198.5	185.8	191.6
75°	150.2	147.1	149.9	139.3	144.1
77.5°	102.3	104.7	103.0	97.4	100.6
80°	67.5	65.6	65.6	62.4	63.1
82.5°	39.4	37.5	37.0	36.0	37.5
85°	18.4	17.9	18.2	17.7	17.0
87.5°	6.6	6.8	6.8	6.5	6.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)