

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: P590251

Luminaire Tested: FSR-24-2-LD4-2LO-35-UNV-82-96-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590251  
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-LD4-2LO-35-UNV-82-96-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

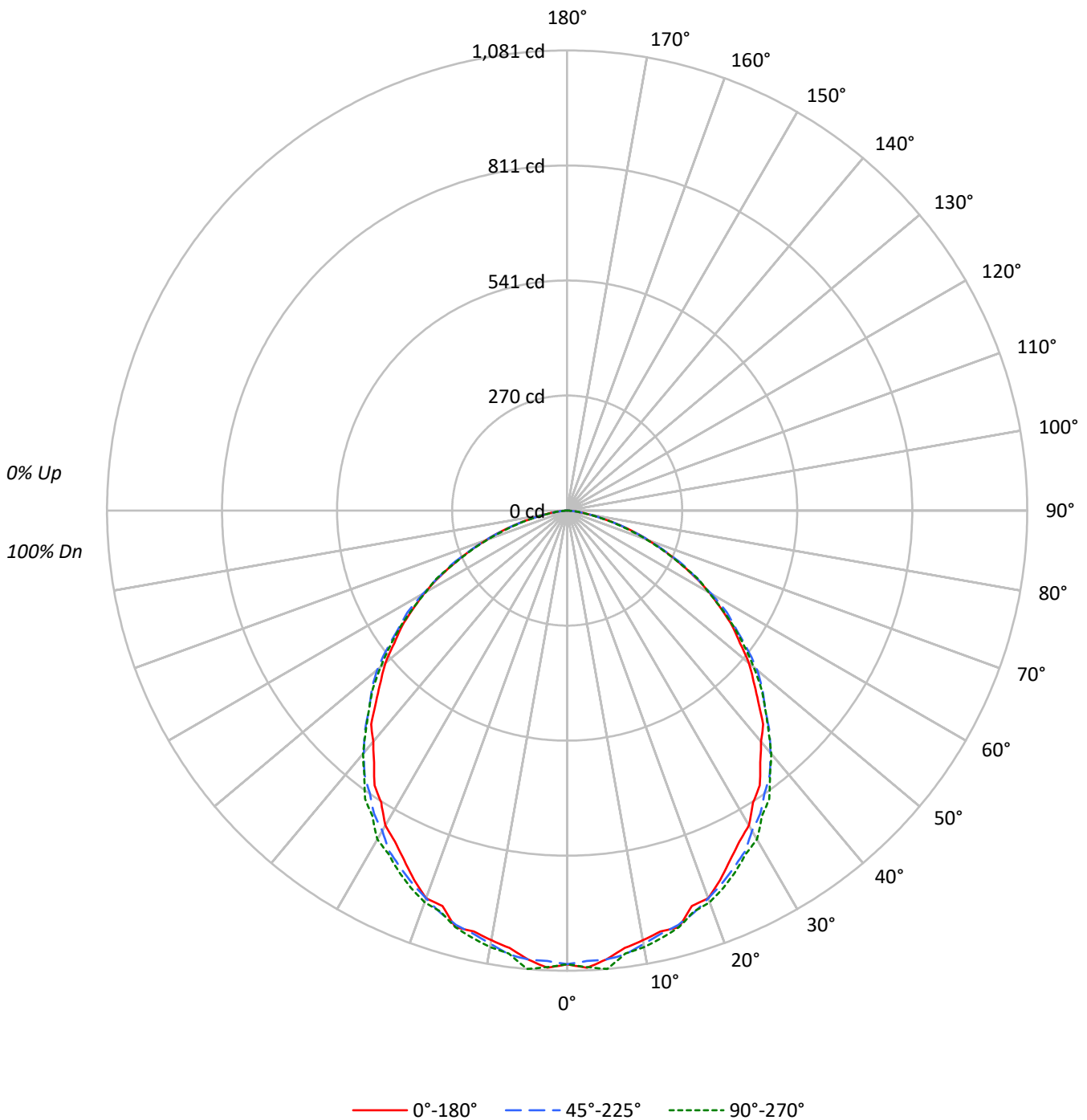
Lumens per Lamp: N/A  
Luminaire Lumens: 2686.0 lumens  
Efficiency: N/A  
Efficacy: 114.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
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°	2868	2868	2868
5°	2858	2860	2920
10°	2801	2825	2845
15°	2823	2807	2823
20°	2775	2775	2804
25°	2689	2749	2779
30°	2653	2699	2771
35°	2590	2658	2718
40°	2490	2609	2621
45°	2414	2500	2504
50°	2335	2440	2393
55°	2225	2268	2252
60°	2080	2101	2063
65°	1855	1902	1841
70°	1592	1597	1552
75°	1260	1258	1209
80°	845	821	789
85°	460	454	426

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 2564 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.2	3.7
10°-20°	284.1	10.6
20°-30°	425.7	15.8
30°-40°	504.5	18.8
40°-50°	505.4	18.8
50°-60°	429.0	16.0
60°-70°	289.3	10.8
70°-80°	127.1	4.7
80°-90°	20.7	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°	810.0	30.2
0°-40°	1314.5	48.9
0°-60°	2249.0	83.7
0°-90°	2686.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2686.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1066	1066	1066	1066	1066	
5°	1058	1056	1059	1055	1081	100
15°	1013	1002	1008	1013	1013	282
25°	906	911	926	938	936	419
35°	788	791	809	828	827	490
45°	634	646	657	674	658	491
55°	474	471	483	480	480	422
65°	291	288	299	287	289	290
75°	121	119	121	112	116	130
85°	15	14	15	14	14	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1065.7	1065.7	1065.7	1065.7	1065.7
2.5°	1075.0	1066.8	1059.3	1068.1	1073.4
5°	1058.2	1055.7	1058.6	1055.4	1080.9
7.5°	1036.4	1045.9	1051.4	1048.0	1049.5
10°	1024.9	1021.6	1033.8	1042.3	1041.1
12.5°	1012.5	1017.4	1018.1	1027.3	1028.2
15°	1013.2	1001.5	1007.7	1012.9	1013.3
17.5°	973.8	986.5	990.7	1002.7	987.9
20°	969.0	959.8	969.0	981.2	979.3
22.5°	939.4	929.1	948.9	959.8	959.1
25°	905.8	910.8	925.7	937.8	935.8
27.5°	876.4	882.2	903.4	920.0	909.3
30°	853.7	850.8	868.7	883.6	891.8
32.5°	813.1	823.6	844.5	859.2	851.4
35°	788.5	790.8	809.1	827.8	827.3
37.5°	745.4	756.3	782.0	787.2	782.4
40°	708.7	719.5	742.8	748.4	746.1
42.5°	681.5	683.5	703.4	709.9	699.6
45°	634.4	646.2	656.9	673.8	657.9
47.5°	594.2	599.7	622.8	627.3	618.9
50°	557.7	559.6	582.9	577.2	571.7
52.5°	511.9	520.0	533.1	532.0	525.5
55°	474.2	471.0	483.4	480.1	480.0
57.5°	428.9	434.4	444.6	439.4	431.0
60°	386.5	386.7	390.4	384.5	383.4
62.5°	339.3	341.0	341.8	334.5	346.3
65°	291.3	287.5	298.7	287.3	289.2
67.5°	247.1	249.1	248.0	240.8	243.6
70°	202.3	204.8	203.0	194.8	197.3
72.5°	161.3	158.2	160.2	150.0	154.7
75°	121.2	118.8	121.0	112.4	116.3
77.5°	82.6	84.5	83.1	78.6	81.2
80°	54.5	53.0	53.0	50.4	50.9
82.5°	31.8	30.3	29.9	29.0	30.3
85°	14.9	14.4	14.7	14.3	13.8
87.5°	5.4	5.5	5.5	5.2	5.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)