

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: P562250

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562250  
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-24-4-LD4-1LO-50-UNV-81-94-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

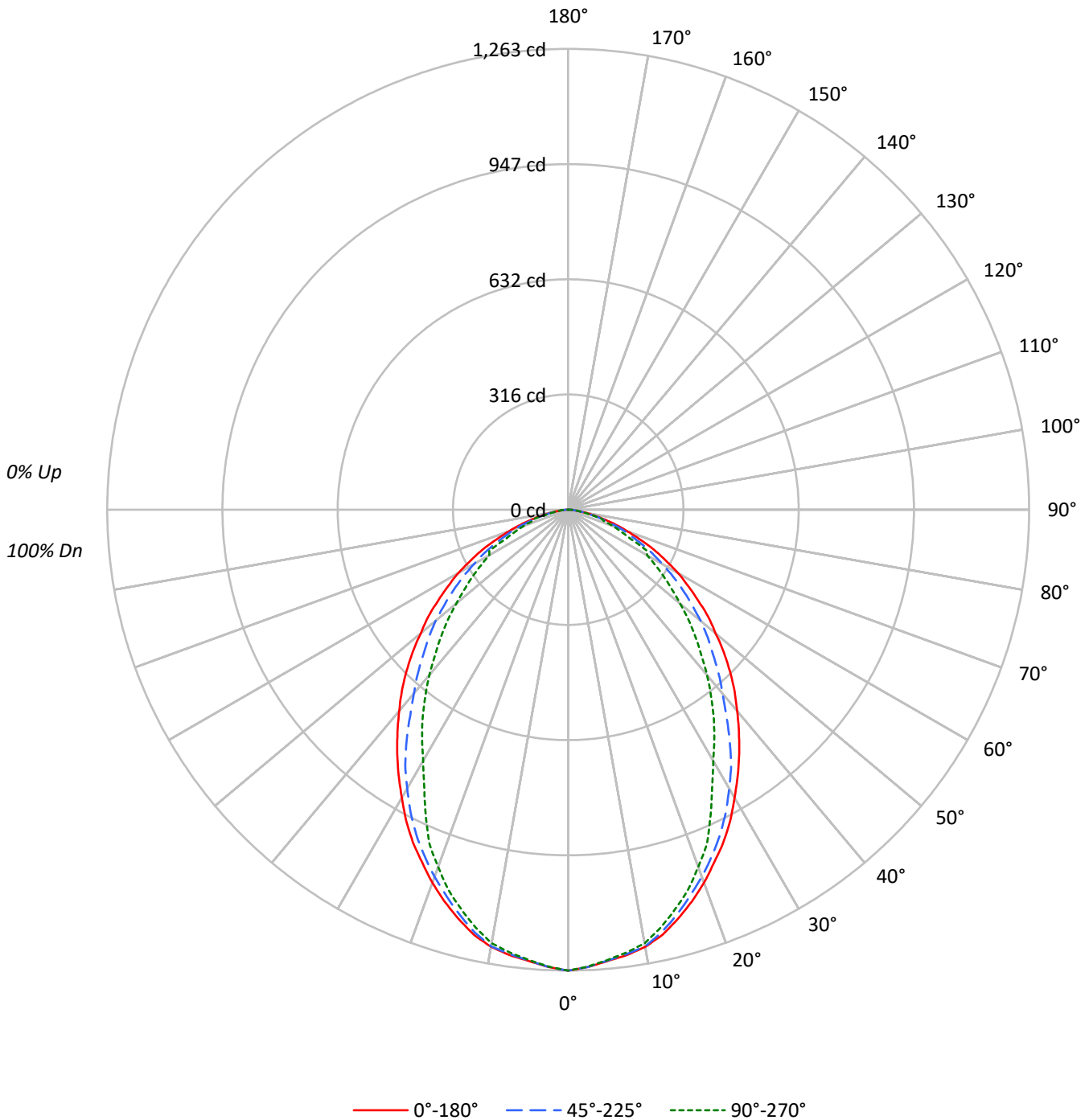
Lumens per Lamp: N/A  
Luminaire Lumens: 2480.0 lumens  
Efficiency: N/A  
Efficacy: 106.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	1700	1700	1700
5°	1677	1675	1673
10°	1662	1660	1648
15°	1617	1601	1579
20°	1558	1533	1491
25°	1494	1461	1370
30°	1416	1370	1234
35°	1341	1267	1142
40°	1265	1154	1039
45°	1192	1067	939
50°	1104	991	838
55°	1021	897	750
60°	935	802	672
65°	823	702	595
70°	678	615	506
75°	539	470	493
80°	362	339	317
85°	225	270	315

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1192 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	117.6	4.7
10°-20°	322.7	13.0
20°-30°	446.8	18.0
30°-40°	476.4	19.2
40°-50°	434.6	17.5
50°-60°	340.5	13.7
60°-70°	221.9	8.9
70°-80°	98.3	4.0
80°-90°	21.1	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°	887.1	35.8
0°-40°	1363.5	55.0
0°-60°	2138.6	86.2
0°-90°	2480.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2480.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1263	1263	1263	1263	1263	
5°	1241	1240	1240	1238	1238	118
15°	1161	1161	1149	1138	1133	326
25°	1006	1000	984	949	923	462
35°	816	810	771	713	695	510
45°	626	613	561	514	494	483
55°	435	422	383	337	320	390
65°	258	244	220	225	187	255
75°	104	96	90	86	95	111
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1263.3	1263.3	1263.3	1263.3	1263.3
2.5°	1254.5	1254.5	1254.5	1253.1	1253.1
5°	1241.4	1239.9	1239.9	1238.5	1238.5
7.5°	1231.1	1229.7	1228.2	1226.8	1223.8
10°	1216.5	1216.5	1215.1	1207.8	1206.3
12.5°	1193.2	1191.7	1185.9	1175.7	1172.7
15°	1161.0	1161.0	1149.4	1137.7	1133.3
17.5°	1126.0	1124.5	1109.9	1098.2	1092.4
20°	1088.0	1085.1	1070.5	1051.5	1041.3
22.5°	1045.7	1045.7	1028.1	1003.3	993.1
25°	1006.2	1000.4	984.3	949.3	923.0
27.5°	961.0	952.2	934.7	885.0	854.4
30°	911.3	906.9	882.1	817.8	794.5
32.5°	864.6	857.3	831.0	763.8	744.8
35°	816.4	810.5	771.1	712.7	695.2
37.5°	768.2	760.9	711.2	664.5	642.6
40°	720.0	711.2	657.2	614.8	591.5
42.5°	674.7	663.0	610.5	565.2	538.9
45°	626.5	613.4	560.8	514.1	493.6
47.5°	578.3	566.6	518.5	470.3	446.9
50°	527.2	517.0	473.2	425.0	400.2
52.5°	484.9	468.8	426.4	378.3	357.8
55°	435.2	422.1	382.6	337.4	319.8
57.5°	389.9	376.8	340.3	297.9	283.3
60°	347.6	328.6	297.9	261.4	249.7
62.5°	300.9	286.2	260.0	229.3	243.9
65°	258.5	243.9	220.5	224.9	186.9
67.5°	211.8	204.5	184.0	163.6	157.7
70°	172.3	163.6	156.3	134.4	128.5
72.5°	137.3	128.5	118.3	106.6	102.2
75°	103.7	96.4	90.5	86.2	94.9
77.5°	71.6	68.6	64.3	59.9	58.4
80°	46.7	45.3	43.8	42.4	40.9
82.5°	27.7	27.7	27.7	27.7	27.7
85°	14.6	16.1	17.5	19.0	20.4
87.5°	8.8	8.8	10.2	11.7	13.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)