

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: P562220

Luminaire Tested: FSR-24-4-LD4-1LO-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562220  
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-40-UNV-93-96-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

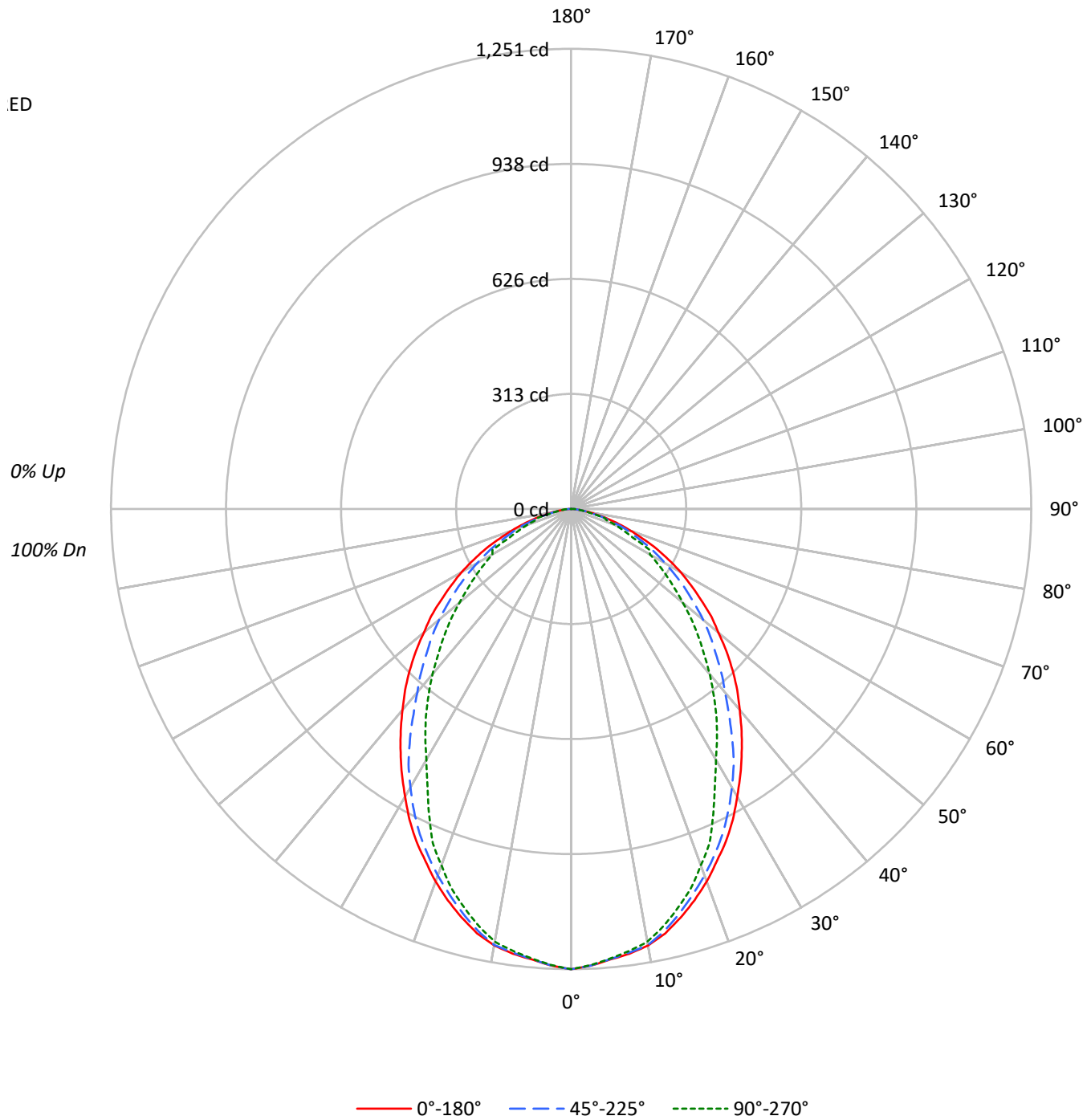
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2456.0 lumens  
Efficiency: N/A  
Efficacy: 105.0 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																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

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

	0°	45°	90°
0°	1683	1683	1683
5°	1660	1658	1657
10°	1646	1644	1632
15°	1602	1585	1563
20°	1543	1518	1477
25°	1479	1447	1357
30°	1402	1357	1222
35°	1328	1254	1131
40°	1252	1143	1029
45°	1181	1057	930
50°	1093	981	830
55°	1011	889	743
60°	926	794	665
65°	815	695	589
70°	672	609	501
75°	534	466	489
80°	359	336	314
85°	224	269	312

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1181 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	116.5	4.7
10°-20°	319.6	13.0
20°-30°	442.5	18.0
30°-40°	471.8	19.2
40°-50°	430.4	17.5
50°-60°	337.2	13.7
60°-70°	219.8	8.9
70°-80°	97.4	4.0
80°-90°	20.9	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°	878.5	35.8
0°-40°	1350.3	55.0
0°-60°	2118.0	86.2
0°-90°	2456.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2456.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1251	1251	1251	1251	1251	
5°	1229	1228	1228	1226	1226	117
15°	1150	1150	1138	1127	1122	323
25°	996	991	975	940	914	458
35°	808	803	764	706	688	505
45°	620	607	555	509	489	478
55°	431	418	379	334	317	387
65°	256	242	218	223	185	252
75°	103	96	90	85	94	110
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1251.1	1251.1	1251.1	1251.1	1251.1
2.5°	1242.4	1242.4	1242.4	1240.9	1240.9
5°	1229.4	1227.9	1227.9	1226.5	1226.5
7.5°	1219.2	1217.8	1216.3	1214.9	1212.0
10°	1204.8	1204.8	1203.3	1196.1	1194.6
12.5°	1181.6	1180.2	1174.4	1164.3	1161.4
15°	1149.8	1149.8	1138.2	1126.7	1122.3
17.5°	1115.1	1113.7	1099.2	1087.6	1081.8
20°	1077.5	1074.6	1060.1	1041.3	1031.2
22.5°	1035.6	1035.6	1018.2	993.6	983.5
25°	996.5	990.7	974.8	940.1	914.1
27.5°	951.7	943.0	925.6	876.5	846.1
30°	902.5	898.2	873.6	809.9	786.8
32.5°	856.2	849.0	822.9	756.4	737.6
35°	808.5	802.7	763.6	705.8	688.4
37.5°	760.8	753.5	704.4	658.1	636.4
40°	713.0	704.4	650.8	608.9	585.8
42.5°	668.2	656.6	604.6	559.7	533.7
45°	620.5	607.4	555.4	509.1	488.9
47.5°	572.7	561.2	513.4	465.7	442.6
50°	522.1	512.0	468.6	420.9	396.3
52.5°	480.2	464.3	422.3	374.6	354.3
55°	431.0	418.0	378.9	334.1	316.7
57.5°	386.2	373.1	337.0	295.0	280.6
60°	344.2	325.4	295.0	258.9	247.3
62.5°	297.9	283.5	257.4	227.1	241.5
65°	256.0	241.5	218.4	222.7	185.1
67.5°	209.7	202.5	182.2	162.0	156.2
70°	170.7	162.0	154.8	133.1	127.3
72.5°	136.0	127.3	117.2	105.6	101.2
75°	102.7	95.5	89.7	85.3	94.0
77.5°	70.9	68.0	63.6	59.3	57.9
80°	46.3	44.8	43.4	41.9	40.5
82.5°	27.5	27.5	27.5	27.5	27.5
85°	14.5	15.9	17.4	18.8	20.2
87.5°	8.7	8.7	10.1	11.6	13.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)