

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: P562287

Luminaire Tested: FSR-24-4-LD4-1LO-50-UNV-93-97-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562287  
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-93-97-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER  
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

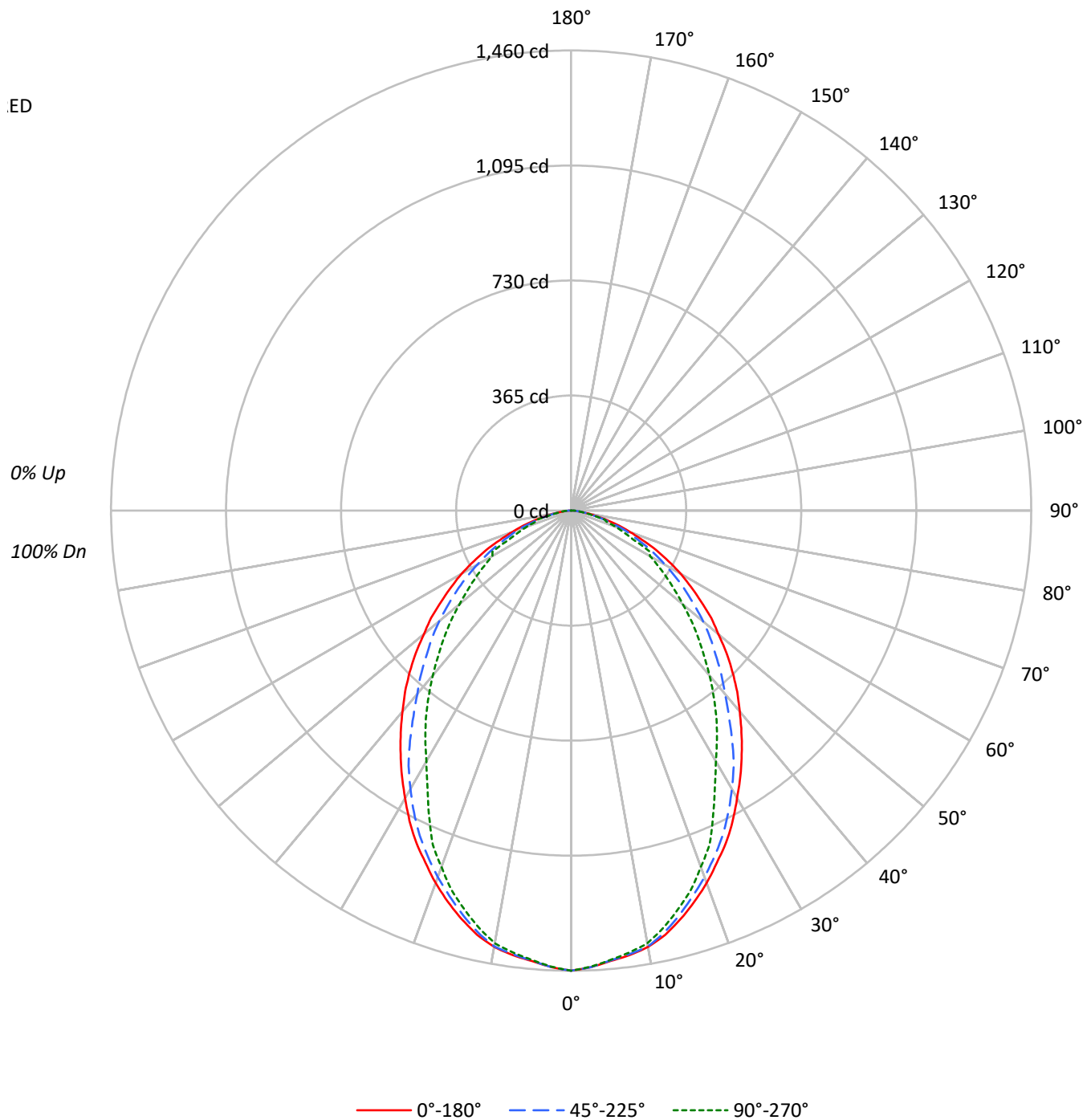
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2866.0 lumens  
Efficiency: N/A  
Efficacy: 122.5 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	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°	1964	1964	1964
5°	1938	1935	1933
10°	1921	1918	1905
15°	1869	1850	1824
20°	1800	1771	1723
25°	1726	1689	1584
30°	1636	1584	1426
35°	1550	1464	1320
40°	1462	1334	1201
45°	1378	1233	1086
50°	1275	1145	968
55°	1180	1037	867
60°	1081	927	777
65°	951	811	688
70°	784	710	584
75°	623	544	570
80°	418	392	366
85°	261	313	364

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1378 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.9	4.7
10°-20°	373.0	13.0
20°-30°	516.3	18.0
30°-40°	550.6	19.2
40°-50°	502.3	17.5
50°-60°	393.5	13.7
60°-70°	256.5	8.9
70°-80°	113.6	4.0
80°-90°	24.4	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°	1025.2	35.8
0°-40°	1575.8	55.0
0°-60°	2471.5	86.2
0°-90°	2866.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2866.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1460	1460	1460	1460	1460	
5°	1435	1433	1433	1431	1431	136
15°	1342	1342	1328	1315	1310	377
25°	1163	1156	1138	1097	1067	534
35°	944	937	891	824	803	590
45°	724	709	648	594	570	558
55°	503	488	442	390	370	451
65°	299	282	255	260	216	294
75°	120	111	105	100	110	128
85°	17	19	20	22	24	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1459.9	1459.9	1459.9	1459.9	1459.9
2.5°	1449.8	1449.8	1449.8	1448.1	1448.1
5°	1434.6	1432.9	1432.9	1431.2	1431.2
7.5°	1422.8	1421.1	1419.4	1417.7	1414.3
10°	1405.9	1405.9	1404.2	1395.8	1394.1
12.5°	1378.9	1377.2	1370.5	1358.6	1355.3
15°	1341.8	1341.8	1328.3	1314.8	1309.7
17.5°	1301.3	1299.6	1282.7	1269.2	1262.4
20°	1257.4	1254.0	1237.1	1215.2	1203.4
22.5°	1208.4	1208.4	1188.2	1159.5	1147.7
25°	1162.9	1156.1	1137.5	1097.0	1066.7
27.5°	1110.5	1100.4	1080.2	1022.8	987.3
30°	1053.2	1048.1	1019.4	945.1	918.1
32.5°	999.1	990.7	960.3	882.7	860.8
35°	943.5	936.7	891.1	823.6	803.4
37.5°	887.8	879.3	821.9	767.9	742.6
40°	832.1	821.9	759.5	710.5	683.5
42.5°	779.7	766.2	705.5	653.2	622.8
45°	724.0	708.9	648.1	594.1	570.5
47.5°	668.3	654.8	599.2	543.5	516.5
50°	609.3	597.5	546.8	491.1	462.4
52.5°	560.3	541.8	492.8	437.1	413.5
55°	502.9	487.8	442.2	389.9	369.6
57.5°	450.6	435.4	393.2	344.3	327.4
60°	401.7	379.7	344.3	302.1	288.6
62.5°	347.7	330.8	300.4	265.0	281.9
65°	298.7	281.9	254.8	259.9	216.0
67.5°	244.7	236.3	212.7	189.0	182.3
70°	199.2	189.0	180.6	155.3	148.5
72.5°	158.6	148.5	136.7	123.2	118.1
75°	119.8	111.4	104.6	99.6	109.7
77.5°	82.7	79.3	74.3	69.2	67.5
80°	54.0	52.3	50.6	48.9	47.3
82.5°	32.1	32.1	32.1	32.1	32.1
85°	16.9	18.6	20.3	21.9	23.6
87.5°	10.1	10.1	11.8	13.5	15.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)