

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: P561934

Luminaire Tested: FSR-24-2-LD4-1LO-35-UNV-81-97-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561934  
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-24-2-LD4-1LO-35-UNV-81-97-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

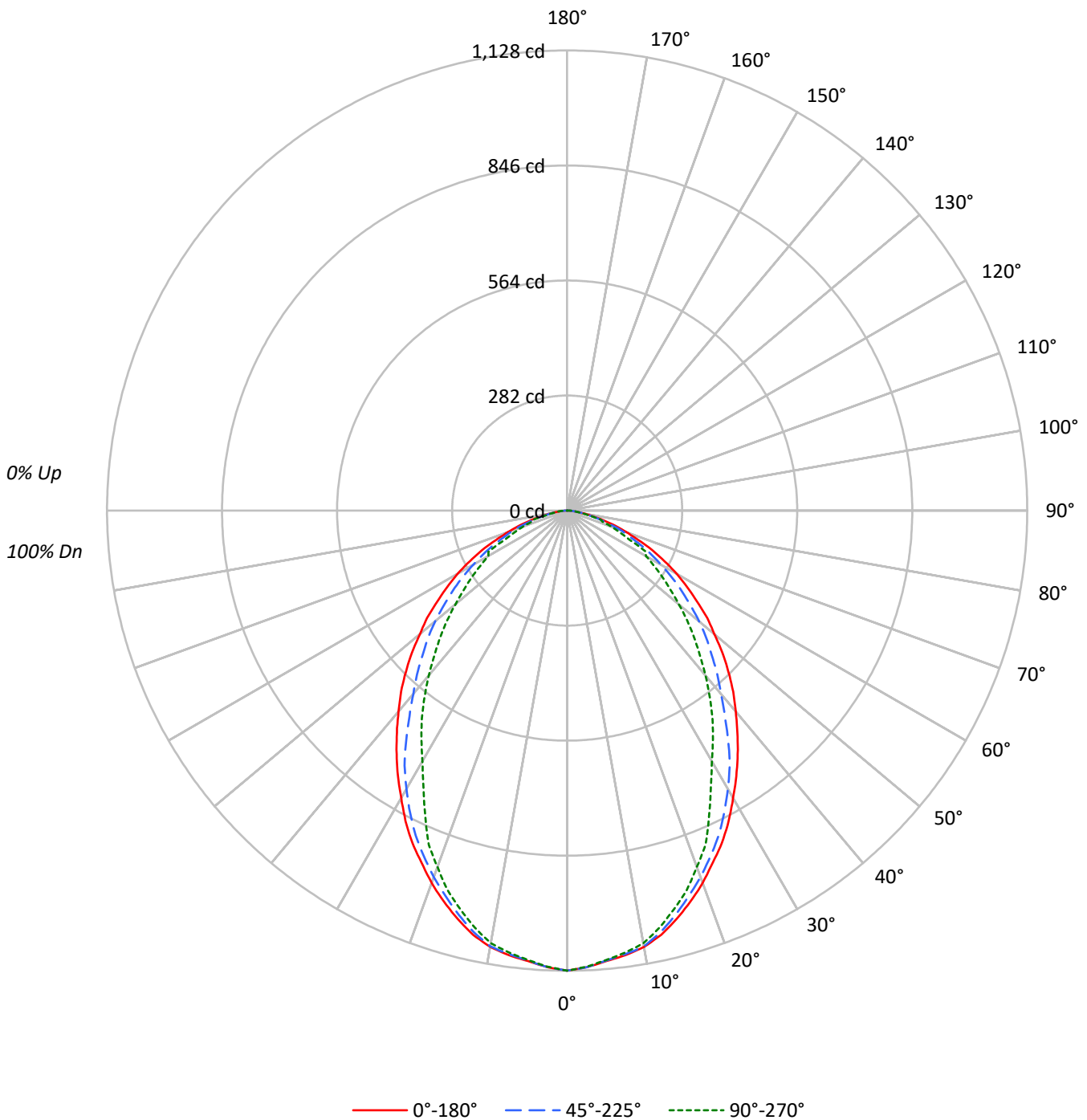
Lumens per Lamp: N/A  
Luminaire Lumens: 2214.0 lumens  
Efficiency: N/A  
Efficacy: 94.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	1517	1517	1517
5°	1497	1495	1493
10°	1484	1482	1471
15°	1444	1429	1409
20°	1391	1368	1331
25°	1334	1305	1223
30°	1264	1223	1102
35°	1197	1131	1019
40°	1129	1030	927
45°	1064	953	839
50°	985	884	748
55°	911	801	670
60°	835	716	600
65°	735	627	531
70°	605	549	451
75°	481	420	440
80°	323	303	283
85°	201	241	283

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1064 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.0	4.7
10°-20°	288.1	13.0
20°-30°	398.9	18.0
30°-40°	425.3	19.2
40°-50°	388.0	17.5
50°-60°	304.0	13.7
60°-70°	198.1	8.9
70°-80°	87.8	4.0
80°-90°	18.8	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°	792.0	35.8
0°-40°	1217.3	55.0
0°-60°	1909.3	86.2
0°-90°	2214.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2214.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1128	1128	1128	1128	1128	
5°	1108	1107	1107	1106	1106	105
15°	1036	1036	1026	1016	1012	291
25°	898	893	879	848	824	412
35°	729	724	688	636	621	456
45°	559	548	501	459	441	431
55°	388	377	342	301	286	348
65°	231	218	197	201	167	227
75°	93	86	81	77	85	99
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1127.8	1127.8	1127.8	1127.8	1127.8
2.5°	1120.0	1120.0	1120.0	1118.7	1118.7
5°	1108.2	1106.9	1106.9	1105.6	1105.6
7.5°	1099.1	1097.8	1096.5	1095.2	1092.6
10°	1086.1	1086.1	1084.8	1078.2	1076.9
12.5°	1065.2	1063.9	1058.7	1049.6	1046.9
15°	1036.5	1036.5	1026.1	1015.7	1011.7
17.5°	1005.2	1003.9	990.9	980.5	975.2
20°	971.3	968.7	955.7	938.7	929.6
22.5°	933.5	933.5	917.9	895.7	886.6
25°	898.3	893.1	878.8	847.5	824.0
27.5°	857.9	850.1	834.4	790.1	762.7
30°	813.6	809.7	787.5	730.1	709.3
32.5°	771.8	765.3	741.9	681.9	664.9
35°	728.8	723.6	688.4	636.3	620.6
37.5°	685.8	679.3	634.9	593.2	573.7
40°	642.8	634.9	586.7	548.9	528.0
42.5°	602.4	591.9	545.0	504.6	481.1
45°	559.3	547.6	500.7	458.9	440.7
47.5°	516.3	505.9	462.8	419.8	399.0
50°	470.7	461.5	422.4	379.4	357.2
52.5°	432.9	418.5	380.7	337.7	319.4
55°	388.5	376.8	341.6	301.2	285.5
57.5°	348.1	336.4	303.8	266.0	252.9
60°	310.3	293.4	266.0	233.4	222.9
62.5°	268.6	255.5	232.1	204.7	217.7
65°	230.8	217.7	196.9	200.8	166.9
67.5°	189.1	182.5	164.3	146.0	140.8
70°	153.8	146.0	139.5	119.9	114.7
72.5°	122.6	114.7	105.6	95.2	91.3
75°	92.6	86.1	80.8	76.9	84.7
77.5°	63.9	61.3	57.4	53.5	52.2
80°	41.7	40.4	39.1	37.8	36.5
82.5°	24.8	24.8	24.8	24.8	24.8
85°	13.0	14.3	15.6	16.9	18.3
87.5°	7.8	7.8	9.1	10.4	11.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)