

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: P563266

Luminaire Tested: FSR-24-4-LD4-3LO-35-UNV-81-85-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P563266  
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-LD4-3LO-35-UNV-81-85-EDD-90  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

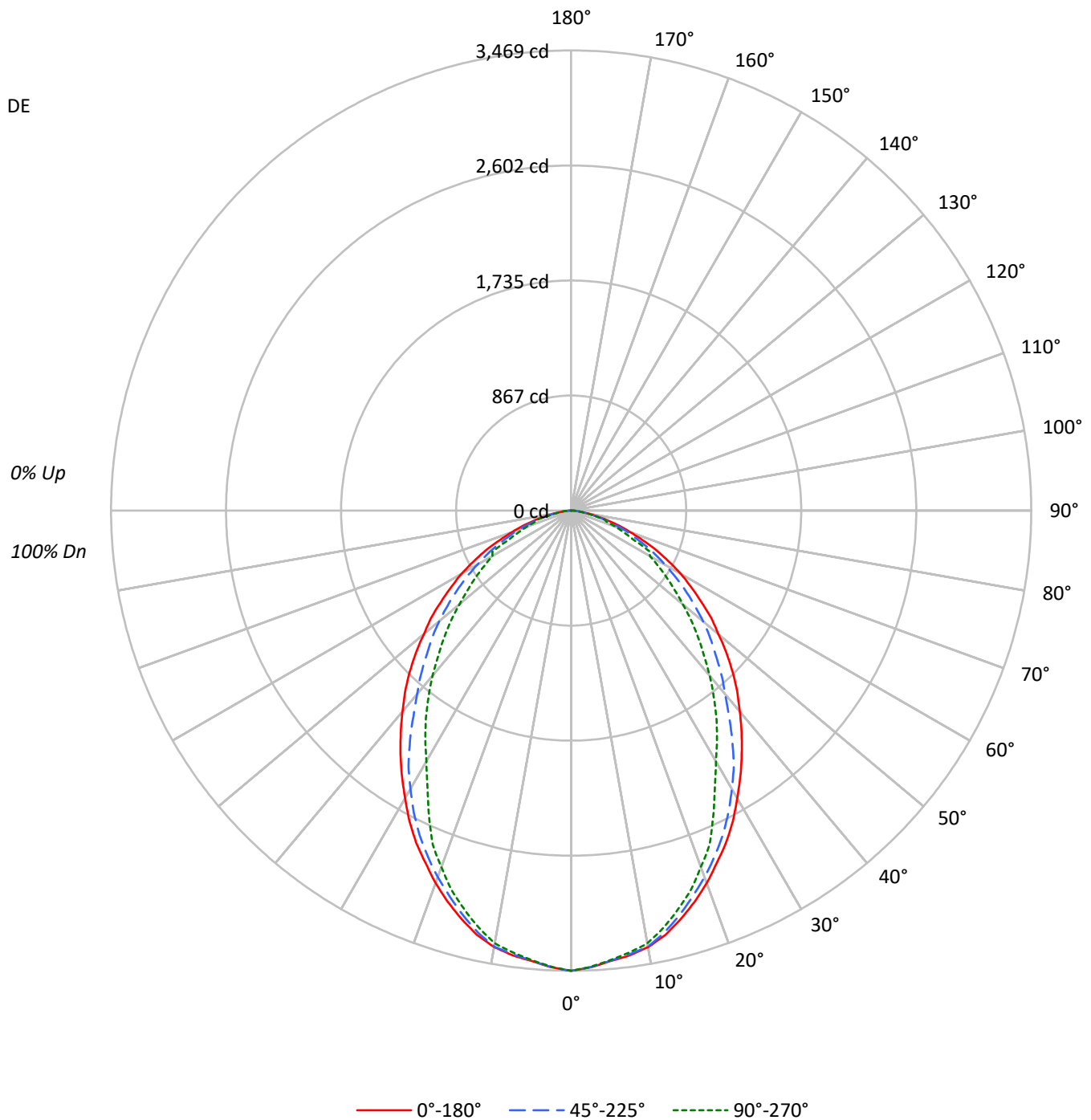
Lumens per Lamp: N/A  
Luminaire Lumens: 6811.0 lumens  
Efficiency: N/A  
Efficacy: 97.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 70.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	4668	4668	4668
5°	4605	4599	4594
10°	4565	4559	4526
15°	4442	4397	4336
20°	4278	4210	4095
25°	4103	4013	3763
30°	3888	3764	3390
35°	3683	3479	3136
40°	3473	3170	2853
45°	3274	2931	2580
50°	3031	2720	2300
55°	2804	2465	2061
60°	2569	2202	1846
65°	2260	1928	1635
70°	1862	1688	1389
75°	1481	1293	1355
80°	994	932	870
85°	619	743	868

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3274 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	323.0	4.7
10°-20°	886.3	13.0
20°-30°	1227.1	18.0
30°-40°	1308.4	19.2
40°-50°	1193.6	17.5
50°-60°	935.1	13.7
60°-70°	609.5	8.9
70°-80°	270.0	4.0
80°-90°	58.0	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°	2436.4	35.8
0°-40°	3744.8	55.0
0°-60°	5873.5	86.2
0°-90°	6811.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6811.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3469	3469	3469	3469	3469	
5°	3409	3405	3405	3401	3401	324
15°	3189	3189	3157	3124	3112	896
25°	2764	2748	2703	2607	2535	1269
35°	2242	2226	2118	1957	1909	1402
45°	1721	1685	1540	1412	1356	1325
55°	1195	1159	1051	926	878	1072
65°	710	670	606	618	513	700
75°	285	265	249	237	261	305
85°	40	44	48	52	56	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3469.4	3469.4	3469.4	3469.4	3469.4
2.5°	3445.4	3445.4	3445.4	3441.4	3441.4
5°	3409.3	3405.3	3405.3	3401.2	3401.2
7.5°	3381.2	3377.2	3373.2	3369.2	3361.1
10°	3341.1	3341.1	3337.1	3317.0	3313.0
12.5°	3276.9	3272.9	3256.9	3228.8	3220.8
15°	3188.7	3188.7	3156.6	3124.5	3112.5
17.5°	3092.4	3088.4	3048.3	3016.2	3000.2
20°	2988.1	2980.1	2940.0	2887.9	2859.8
22.5°	2871.8	2871.8	2823.7	2755.5	2727.4
25°	2763.5	2747.5	2703.3	2607.1	2534.9
27.5°	2639.2	2615.1	2567.0	2430.6	2346.4
30°	2502.8	2490.8	2422.6	2246.1	2181.9
32.5°	2374.5	2354.4	2282.2	2097.7	2045.6
35°	2242.1	2226.1	2117.8	1957.3	1909.2
37.5°	2109.7	2089.7	1953.3	1825.0	1764.8
40°	1977.4	1953.3	1804.9	1688.6	1624.4
42.5°	1853.0	1821.0	1676.6	1552.2	1480.0
45°	1720.7	1684.6	1540.2	1411.8	1355.7
47.5°	1588.3	1556.2	1423.9	1291.5	1227.3
50°	1447.9	1419.9	1299.5	1167.2	1099.0
52.5°	1331.6	1287.5	1171.2	1038.8	982.7
55°	1195.2	1159.2	1050.9	926.5	878.4
57.5°	1070.9	1034.8	934.5	818.2	778.1
60°	954.6	902.5	818.2	718.0	685.9
62.5°	826.2	786.1	713.9	629.7	669.8
65°	709.9	669.8	605.6	617.7	513.4
67.5°	581.6	561.5	505.4	449.2	433.2
70°	473.3	449.2	429.2	369.0	353.0
72.5°	377.0	353.0	324.9	292.8	280.8
75°	284.8	264.7	248.7	236.6	260.7
77.5°	196.5	188.5	176.5	164.4	160.4
80°	128.3	124.3	120.3	116.3	112.3
82.5°	76.2	76.2	76.2	76.2	76.2
85°	40.1	44.1	48.1	52.1	56.2
87.5°	24.1	24.1	28.1	32.1	36.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)