

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: P561797

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-86-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561797  
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-12-4-LD4-2STD-40-UNV-81-86-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

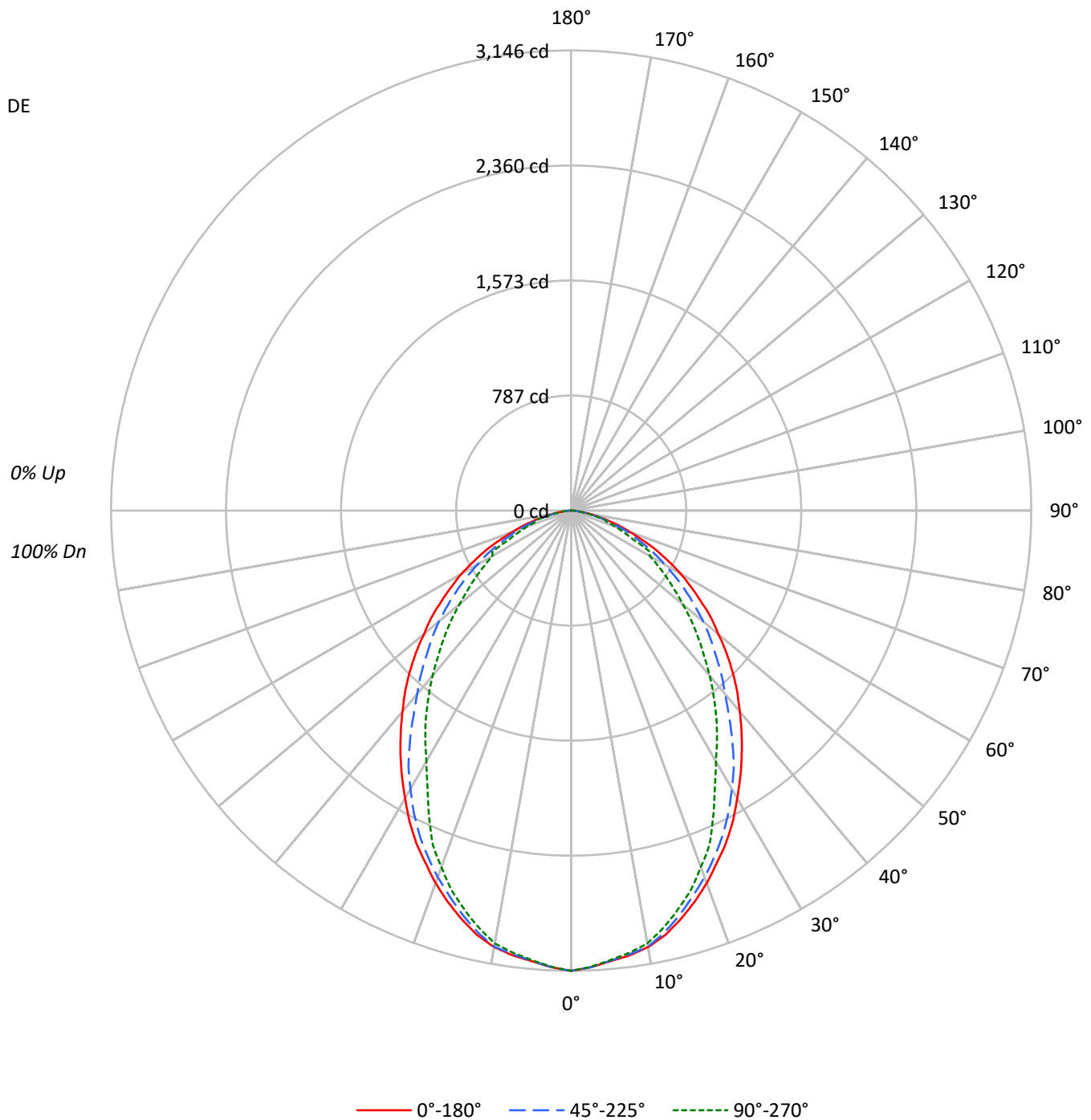
Lumens per Lamp: N/A  
Luminaire Lumens: 6177.0 lumens  
Efficiency: N/A  
Efficacy: 92.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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°	8467	8467	8467
5°	8352	8342	8332
10°	8280	8270	8210
15°	8057	7975	7864
20°	7761	7635	7427
25°	7442	7280	6826
30°	7053	6827	6149
35°	6680	6309	5688
40°	6300	5750	5175
45°	5939	5316	4679
50°	5498	4934	4173
55°	5086	4471	3737
60°	4659	3994	3348
65°	4099	3498	2965
70°	3377	3062	2519
75°	2686	2345	2458
80°	1804	1691	1579
85°	1124	1349	1572

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5939 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	292.9	4.7
10°-20°	803.8	13.0
20°-30°	1112.8	18.0
30°-40°	1186.6	19.2
40°-50°	1082.5	17.5
50°-60°	848.1	13.7
60°-70°	552.7	8.9
70°-80°	244.9	4.0
80°-90°	52.6	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°	2209.6	35.8
0°-40°	3396.2	55.0
0°-60°	5326.8	86.2
0°-90°	6177.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6177.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3146	3146	3146	3146	3146	
5°	3092	3088	3088	3085	3085	293
15°	2892	2892	2863	2834	2823	813
25°	2506	2492	2452	2364	2299	1151
35°	2033	2019	1921	1775	1732	1271
45°	1560	1528	1397	1280	1230	1202
55°	1084	1051	953	840	797	972
65°	644	608	549	560	466	634
75°	258	240	226	215	236	277
85°	36	40	44	47	51	50
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3146.5	3146.5	3146.5	3146.5	3146.5
2.5°	3124.7	3124.7	3124.7	3121.0	3121.0
5°	3091.9	3088.3	3088.3	3084.6	3084.6
7.5°	3066.5	3062.8	3059.2	3055.5	3048.3
10°	3030.1	3030.1	3026.4	3008.3	3004.6
12.5°	2971.9	2968.2	2953.7	2928.2	2921.0
15°	2891.9	2891.9	2862.8	2833.7	2822.7
17.5°	2804.6	2800.9	2764.5	2735.4	2720.9
20°	2710.0	2702.7	2666.3	2619.0	2593.6
22.5°	2604.5	2604.5	2560.8	2499.0	2473.5
25°	2506.3	2491.7	2451.7	2364.4	2298.9
27.5°	2393.5	2371.7	2328.0	2204.4	2128.0
30°	2269.8	2258.9	2197.1	2037.0	1978.8
32.5°	2153.4	2135.2	2069.8	1902.4	1855.2
35°	2033.4	2018.8	1920.6	1775.1	1731.5
37.5°	1913.4	1895.2	1771.5	1655.1	1600.5
40°	1793.3	1771.5	1636.9	1531.4	1473.2
42.5°	1680.5	1651.4	1520.5	1407.7	1342.3
45°	1560.5	1527.8	1396.8	1280.4	1229.5
47.5°	1440.5	1411.4	1291.3	1171.3	1113.1
50°	1313.2	1287.7	1178.6	1058.5	996.7
52.5°	1207.7	1167.7	1062.2	942.1	891.2
55°	1084.0	1051.3	953.0	840.3	796.6
57.5°	971.2	938.5	847.5	742.1	705.7
60°	865.7	818.4	742.1	651.1	622.0
62.5°	749.3	713.0	647.5	571.1	607.5
65°	643.8	607.5	549.3	560.2	465.6
67.5°	527.4	509.3	458.3	407.4	392.9
70°	429.2	407.4	389.2	334.7	320.1
72.5°	341.9	320.1	294.6	265.5	254.6
75°	258.3	240.1	225.5	214.6	236.4
77.5°	178.2	171.0	160.1	149.1	145.5
80°	116.4	112.8	109.1	105.5	101.9
82.5°	69.1	69.1	69.1	69.1	69.1
85°	36.4	40.0	43.7	47.3	50.9
87.5°	21.8	21.8	25.5	29.1	32.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)