

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: P561805

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-96-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P561805  
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-81-96-EDD  
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

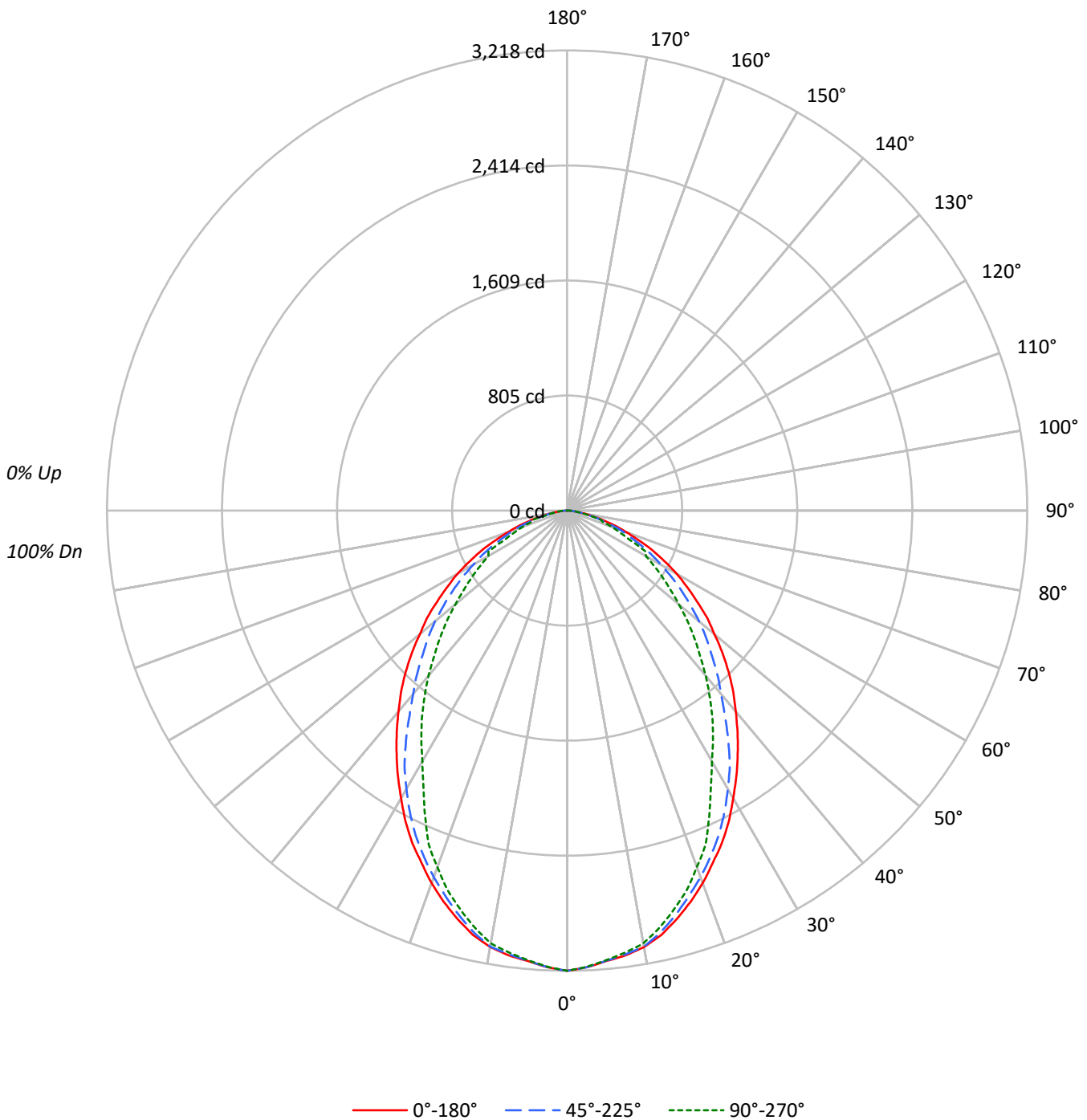
Lumens per Lamp: N/A  
Luminaire Lumens: 6318.0 lumens  
Efficiency: N/A  
Efficacy: 94.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 66.6  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				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°	8660	8660	8660
5°	8543	8533	8523
10°	8469	8458	8397
15°	8240	8157	8043
20°	7938	7810	7597
25°	7611	7446	6982
30°	7214	6983	6289
35°	6832	6454	5818
40°	6443	5882	5293
45°	6074	5437	4786
50°	5623	5047	4268
55°	5202	4573	3823
60°	4766	4085	3424
65°	4193	3577	3032
70°	3454	3132	2576
75°	2747	2399	2514
80°	1846	1729	1615
85°	1149	1377	1609

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6074 cd/sqm

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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	299.6	4.7
10°-20°	822.2	13.0
20°-30°	1138.2	18.0
30°-40°	1213.7	19.2
40°-50°	1107.2	17.5
50°-60°	867.4	13.7
60°-70°	565.3	8.9
70°-80°	250.5	4.0
80°-90°	53.8	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°	2260.0	35.8
0°-40°	3473.7	55.0
0°-60°	5448.4	86.2
0°-90°	6318.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6318.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3218	3218	3218	3218	3218	
5°	3162	3159	3159	3155	3155	300
15°	2958	2958	2928	2898	2887	832
25°	2564	2549	2508	2418	2351	1177
35°	2080	2065	1964	1816	1771	1300
45°	1596	1563	1429	1310	1258	1229
55°	1109	1075	975	860	815	994
65°	658	621	562	573	476	649
75°	264	246	231	220	242	283
85°	37	41	45	48	52	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3218.3	3218.3	3218.3	3218.3	3218.3
2.5°	3196.0	3196.0	3196.0	3192.3	3192.3
5°	3162.5	3158.8	3158.8	3155.1	3155.1
7.5°	3136.5	3132.7	3129.0	3125.3	3117.8
10°	3099.2	3099.2	3095.5	3076.9	3073.2
12.5°	3039.7	3036.0	3021.1	2995.1	2987.6
15°	2957.9	2957.9	2928.1	2898.3	2887.2
17.5°	2868.6	2864.8	2827.6	2797.9	2783.0
20°	2771.8	2764.4	2727.2	2678.8	2652.8
22.5°	2663.9	2663.9	2619.3	2556.0	2530.0
25°	2563.5	2548.6	2507.7	2418.4	2351.4
27.5°	2448.1	2425.8	2381.2	2254.7	2176.5
30°	2321.6	2310.5	2247.2	2083.5	2024.0
32.5°	2202.6	2184.0	2117.0	1945.9	1897.5
35°	2079.8	2064.9	1964.5	1815.6	1771.0
37.5°	1957.0	1938.4	1811.9	1692.9	1637.1
40°	1834.2	1811.9	1674.3	1566.4	1506.8
42.5°	1718.9	1689.1	1555.2	1439.9	1372.9
45°	1596.1	1562.6	1428.7	1309.6	1257.6
47.5°	1473.4	1443.6	1320.8	1198.0	1138.5
50°	1343.1	1317.1	1205.5	1082.7	1019.4
52.5°	1235.2	1194.3	1086.4	963.6	911.5
55°	1108.7	1075.2	974.8	859.5	814.8
57.5°	993.4	959.9	866.9	759.0	721.8
60°	885.5	837.1	759.0	666.0	636.2
62.5°	766.4	729.2	662.3	584.1	621.3
65°	658.5	621.3	561.8	573.0	476.2
67.5°	539.5	520.9	468.8	416.7	401.8
70°	439.0	416.7	398.1	342.3	327.4
72.5°	349.7	327.4	301.4	271.6	260.4
75°	264.2	245.6	230.7	219.5	241.8
77.5°	182.3	174.9	163.7	152.5	148.8
80°	119.1	115.3	111.6	107.9	104.2
82.5°	70.7	70.7	70.7	70.7	70.7
85°	37.2	40.9	44.6	48.4	52.1
87.5°	22.3	22.3	26.0	29.8	33.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)