

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: P590430

Luminaire Tested: FSR-24-2-LD4-3HI-35-UNV-81-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590430  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: FAIL-SAFE  
Catalog Number: FSR-24-2-LD4-3HI-35-UNV-81-85-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

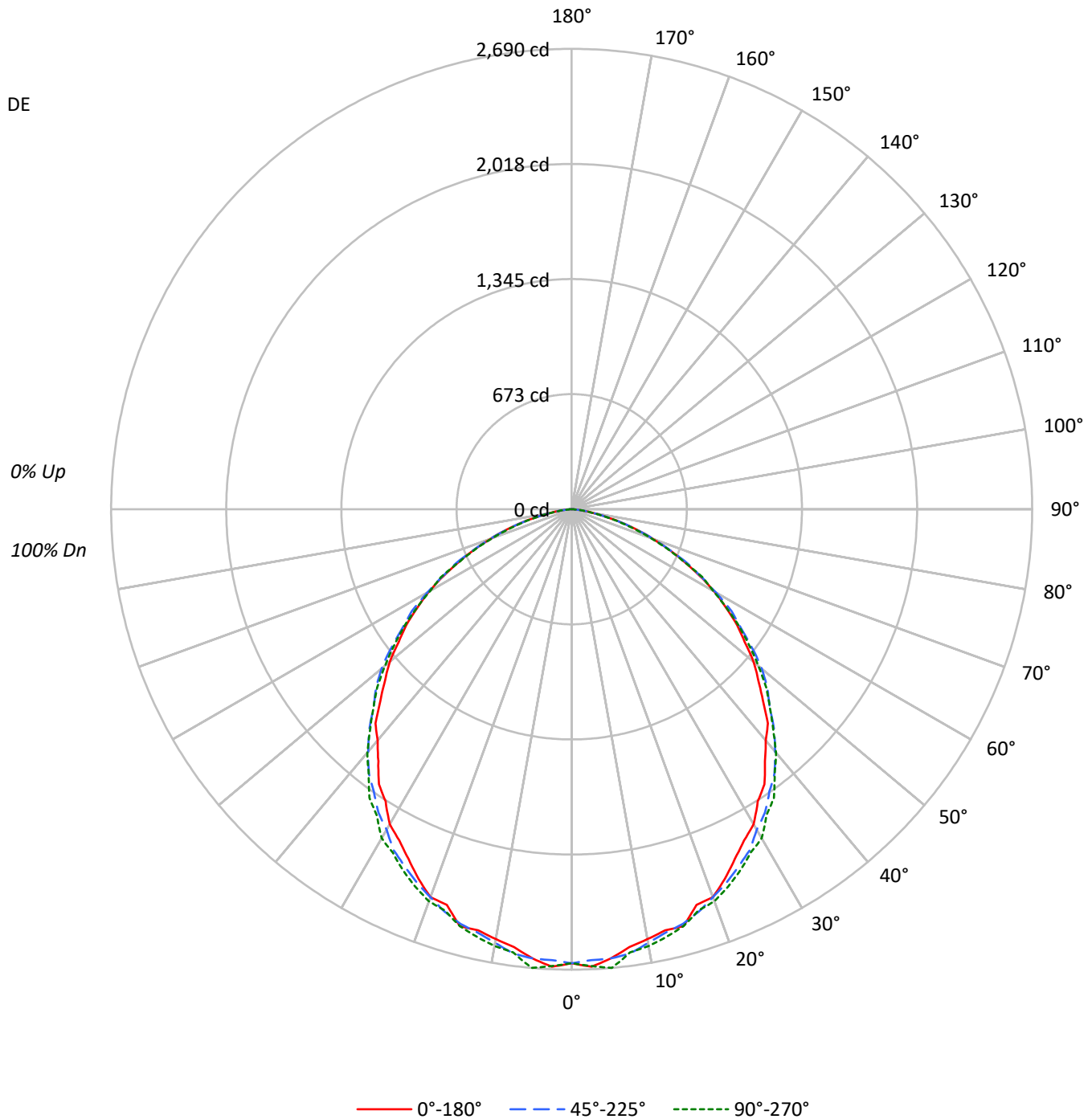
Lumens per Lamp: N/A  
Luminaire Lumens: 6685.0 lumens  
Efficiency: N/A  
Efficacy: 103.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.8  
Input Voltage (V):  
Input Current (Ain): NR  
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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7138	7138	7138
5°	7114	7117	7267
10°	6970	7031	7080
15°	7025	6987	7026
20°	6906	6906	6980
25°	6694	6840	6915
30°	6602	6718	6897
35°	6447	6615	6764
40°	6196	6494	6523
45°	6008	6222	6231
50°	5811	6073	5957
55°	5537	5644	5604
60°	5177	5229	5135
65°	4616	4734	4584
70°	3961	3974	3864
75°	3137	3130	3009
80°	2101	2044	1963
85°	1142	1130	1056

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 6382 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	249.5	3.7
10°-20°	707.1	10.6
20°-30°	1059.4	15.8
30°-40°	1255.6	18.8
40°-50°	1257.9	18.8
50°-60°	1067.8	16.0
60°-70°	719.9	10.8
70°-80°	316.3	4.7
80°-90°	51.4	0.8
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°	2016.0	30.2
0°-40°	3271.6	48.9
0°-60°	5597.4	83.7
0°-90°	6685.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6685.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2652	2652	2652	2652	2652	
5°	2634	2627	2635	2627	2690	248
15°	2522	2492	2508	2521	2522	703
25°	2254	2267	2304	2334	2329	1042
35°	1962	1968	2014	2060	2059	1218
45°	1579	1608	1635	1677	1637	1221
55°	1180	1172	1203	1195	1194	1050
65°	725	715	744	715	720	721
75°	302	296	301	280	289	323
85°	37	36	37	36	34	54
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2652.4	2652.4	2652.4	2652.4	2652.4
2.5°	2675.4	2655.2	2636.3	2658.3	2671.6
5°	2633.6	2627.4	2634.6	2626.8	2690.1
7.5°	2579.5	2603.1	2616.8	2608.3	2612.0
10°	2550.7	2542.5	2573.0	2594.2	2591.1
12.5°	2519.9	2532.2	2533.9	2556.9	2558.9
15°	2521.6	2492.5	2507.9	2520.9	2522.0
17.5°	2423.7	2455.2	2465.8	2495.6	2458.6
20°	2411.7	2388.7	2411.7	2442.2	2437.4
22.5°	2338.1	2312.4	2361.7	2388.7	2387.0
25°	2254.5	2266.8	2303.8	2333.9	2329.1
27.5°	2181.2	2195.6	2248.3	2289.8	2263.0
30°	2124.7	2117.5	2162.0	2199.0	2219.6
32.5°	2023.7	2049.7	2101.7	2138.4	2118.9
35°	1962.4	1968.2	2013.7	2060.3	2058.9
37.5°	1855.2	1882.2	1946.3	1959.3	1947.3
40°	1763.7	1790.8	1848.7	1862.7	1856.9
42.5°	1696.3	1701.1	1750.7	1766.8	1741.1
45°	1578.8	1608.2	1635.0	1677.1	1637.4
47.5°	1478.8	1492.5	1550.0	1561.3	1540.4
50°	1388.0	1392.8	1450.7	1436.7	1423.0
52.5°	1274.0	1294.2	1326.7	1324.0	1307.9
55°	1180.2	1172.3	1203.1	1194.9	1194.5
57.5°	1067.5	1081.2	1106.5	1093.5	1072.6
60°	962.0	962.3	971.6	956.9	954.1
62.5°	844.5	848.6	850.7	832.5	862.0
65°	725.0	715.4	743.5	715.1	719.9
67.5°	615.1	619.9	617.1	599.3	606.2
70°	503.4	509.6	505.1	484.9	491.1
72.5°	401.4	393.8	398.6	373.3	384.9
75°	301.7	295.6	301.0	279.8	289.4
77.5°	205.5	210.3	206.9	195.6	202.1
80°	135.6	131.9	131.9	125.3	126.7
82.5°	79.1	75.3	74.3	72.3	75.3
85°	37.0	36.0	36.6	35.6	34.2
87.5°	13.4	13.7	13.7	13.0	12.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)