

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: P590464

Luminaire Tested: FSR-24-2-LD4-3HI-40-UNV-81-87-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590464  
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-40-UNV-81-87-EDD  
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

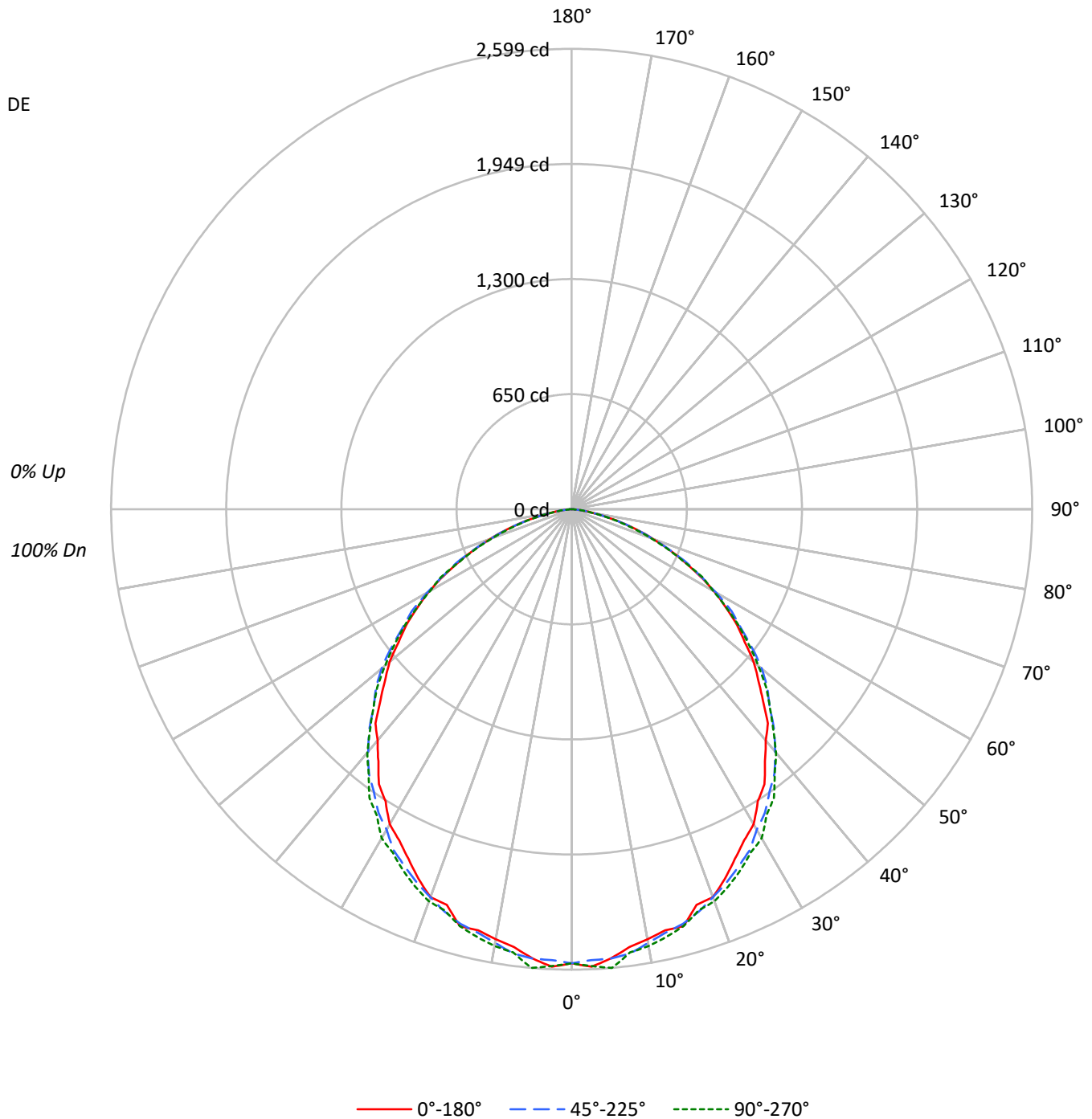
Lumens per Lamp: N/A  
Luminaire Lumens: 6459.0 lumens  
Efficiency: N/A  
Efficacy: 99.7 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 64.8  
Input Voltage (V):  
Input Current (Ain): NR  
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																		
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	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°	6896	6896	6896
5°	6874	6876	7021
10°	6734	6793	6841
15°	6788	6751	6788
20°	6673	6673	6744
25°	6468	6609	6682
30°	6379	6491	6664
35°	6229	6392	6535
40°	5986	6275	6302
45°	5805	6012	6020
50°	5614	5868	5756
55°	5350	5453	5415
60°	5003	5052	4962
65°	4460	4574	4429
70°	3827	3840	3733
75°	3031	3025	2907
80°	2030	1974	1897
85°	1102	1093	1022

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 6167 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	241.1	3.7
10°-20°	683.2	10.6
20°-30°	1023.6	15.8
30°-40°	1213.2	18.8
40°-50°	1215.4	18.8
50°-60°	1031.7	16.0
60°-70°	695.6	10.8
70°-80°	305.6	4.7
80°-90°	49.7	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°	1947.9	30.2
0°-40°	3161.0	48.9
0°-60°	5408.1	83.7
0°-90°	6459.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6459.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2563	2563	2563	2563	2563	
5°	2545	2539	2546	2538	2599	240
15°	2436	2408	2423	2436	2437	679
25°	2178	2190	2226	2255	2250	1007
35°	1896	1902	1946	1991	1989	1177
45°	1525	1554	1580	1620	1582	1180
55°	1140	1133	1162	1154	1154	1014
65°	700	691	718	691	696	697
75°	292	286	291	270	280	312
85°	36	35	35	34	33	52
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2562.8	2562.8	2562.8	2562.8	2562.8
2.5°	2584.9	2565.4	2547.2	2568.4	2581.3
5°	2544.6	2538.6	2545.6	2538.0	2599.2
7.5°	2492.3	2515.1	2528.4	2520.1	2523.7
10°	2464.5	2456.6	2486.0	2506.5	2503.5
12.5°	2434.7	2446.6	2448.3	2470.4	2472.4
15°	2436.4	2408.2	2423.1	2435.7	2436.7
17.5°	2341.7	2372.2	2382.4	2411.2	2375.5
20°	2330.2	2308.0	2330.2	2359.6	2355.0
22.5°	2259.0	2234.2	2281.8	2308.0	2306.3
25°	2178.3	2190.2	2225.9	2255.0	2250.4
27.5°	2107.5	2121.4	2172.3	2212.4	2186.5
30°	2052.9	2045.9	2088.9	2124.7	2144.5
32.5°	1955.2	1980.4	2030.7	2066.1	2047.2
35°	1896.0	1901.6	1945.7	1990.7	1989.3
37.5°	1792.4	1818.6	1880.5	1893.0	1881.5
40°	1704.1	1730.2	1786.2	1799.7	1794.1
42.5°	1638.9	1643.5	1691.5	1707.1	1682.3
45°	1525.4	1553.9	1579.7	1620.4	1582.0
47.5°	1428.8	1442.0	1497.6	1508.5	1488.4
50°	1341.1	1345.7	1401.7	1388.1	1374.9
52.5°	1230.9	1250.4	1281.9	1279.2	1263.7
55°	1140.3	1132.6	1162.4	1154.5	1154.2
57.5°	1031.4	1044.6	1069.1	1056.5	1036.4
60°	929.5	929.8	938.7	924.5	921.9
62.5°	816.0	820.0	821.9	804.4	832.9
65°	700.5	691.2	718.4	690.9	695.5
67.5°	594.3	598.9	596.3	579.1	585.7
70°	486.4	492.4	488.1	468.5	474.5
72.5°	387.8	380.5	385.2	360.7	371.9
75°	291.5	285.6	290.9	270.3	279.6
77.5°	198.5	203.2	199.9	188.9	195.2
80°	131.0	127.4	127.4	121.1	122.4
82.5°	76.4	72.8	71.8	69.8	72.8
85°	35.7	34.7	35.4	34.4	33.1
87.5°	12.9	13.2	13.2	12.6	11.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)