

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: P590585

Luminaire Tested: FSR-24-2-LD4-3LO-50-UNV-80-88-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590585  
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-LD4-3LO-50-UNV-80-88-EDD  
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONM  
SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

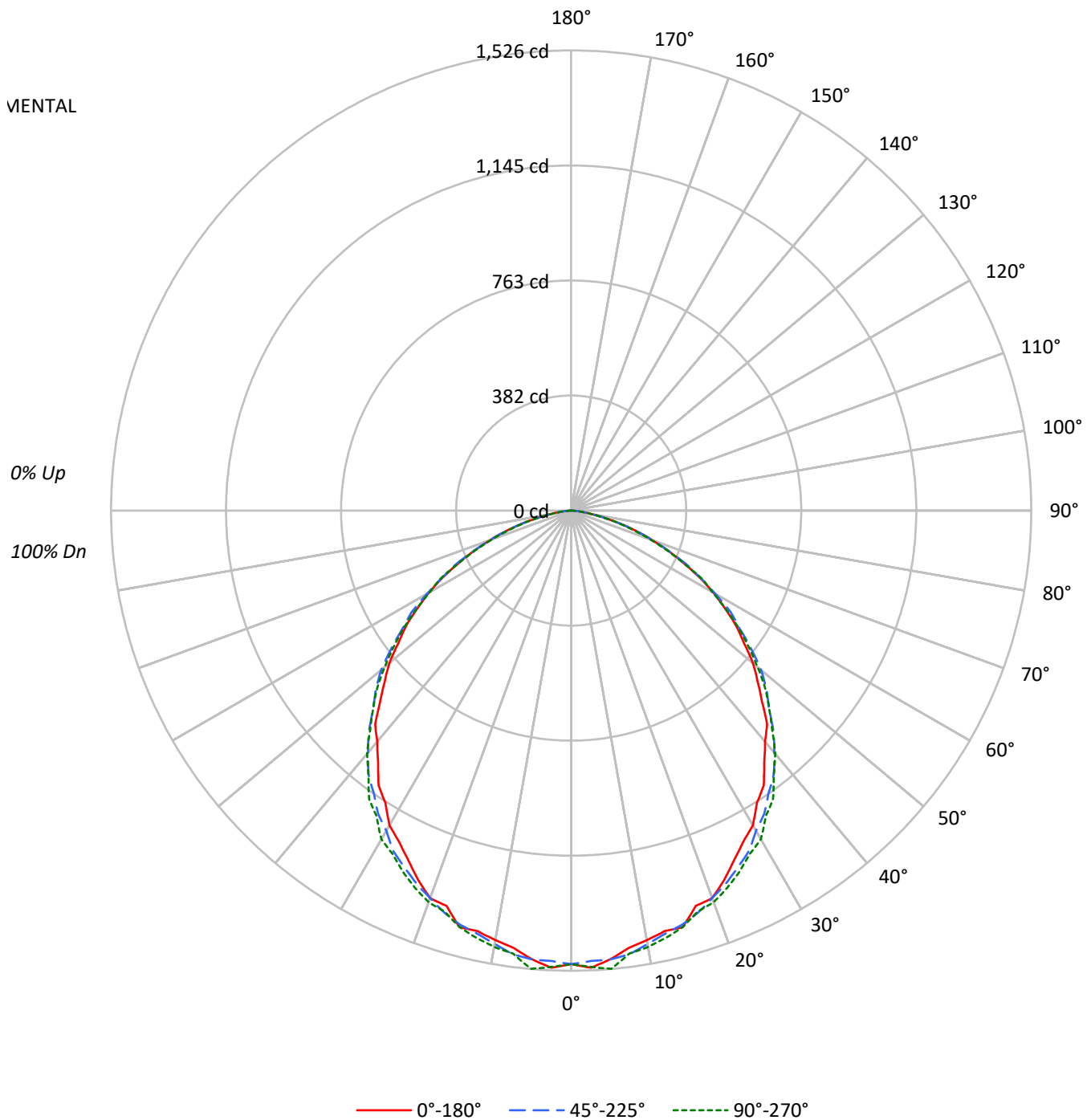
Lumens per Lamp: N/A  
Luminaire Lumens: 3791.0 lumens  
Efficiency: N/A  
Efficacy: 108.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
Input Voltage (V):  
Input Current (Ain): NR  
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



TEST NUMBER: P590585

CATALOG NUMBER: FSR-24-2-LD4-3LO-50-UNV-80-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P590585

CATALOG NUMBER: FSR-24-2-LD4-3LO-50-UNV-80-88-EDD

**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°	4048	4048	4048
5°	4034	4036	4121
10°	3953	3987	4015
15°	3984	3962	3984
20°	3916	3916	3958
25°	3796	3879	3922
30°	3744	3810	3911
35°	3656	3752	3836
40°	3514	3683	3699
45°	3407	3529	3534
50°	3295	3444	3378
55°	3140	3201	3178
60°	2936	2965	2912
65°	2618	2684	2599
70°	2246	2254	2191
75°	1779	1775	1706
80°	1192	1159	1114
85°	648	642	599

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3620 cd/sqm



TEST NUMBER: P590585

CATALOG NUMBER: FSR-24-2-LD4-3LO-50-UNV-80-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.5	3.7
10°-20°	401.0	10.6
20°-30°	600.8	15.8
30°-40°	712.1	18.8
40°-50°	713.4	18.8
50°-60°	605.5	16.0
60°-70°	408.2	10.8
70°-80°	179.4	4.7
80°-90°	29.2	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°	1143.3	30.2
0°-40°	1855.3	48.9
0°-60°	3174.2	83.7
0°-90°	3791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3791.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1504	1504	1504	1504	1504	
5°	1494	1490	1494	1490	1526	141
15°	1430	1414	1422	1430	1430	398
25°	1278	1286	1306	1324	1321	591
35°	1113	1116	1142	1168	1168	691
45°	895	912	927	951	928	693
55°	669	665	682	678	677	595
65°	411	406	422	406	408	409
75°	171	168	171	159	164	183
85°	21	20	21	20	19	30
90°	0	0	0	0	0	



TEST NUMBER: P590585

CATALOG NUMBER: FSR-24-2-LD4-3LO-50-UNV-80-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1504.2	1504.2	1504.2	1504.2	1504.2
2.5°	1517.2	1505.7	1495.0	1507.5	1515.0
5°	1493.5	1490.0	1494.1	1489.6	1525.5
7.5°	1462.8	1476.2	1484.0	1479.1	1481.3
10°	1446.5	1441.8	1459.1	1471.2	1469.4
12.5°	1429.0	1436.0	1437.0	1450.0	1451.2
15°	1430.0	1413.5	1422.2	1429.6	1430.2
17.5°	1374.4	1392.3	1398.3	1415.2	1394.2
20°	1367.6	1354.6	1367.6	1384.9	1382.2
22.5°	1325.9	1311.3	1339.3	1354.6	1353.7
25°	1278.5	1285.5	1306.5	1323.6	1320.8
27.5°	1236.9	1245.1	1275.0	1298.5	1283.4
30°	1204.9	1200.8	1226.1	1247.0	1258.7
32.5°	1147.6	1162.4	1191.9	1212.7	1201.6
35°	1112.8	1116.1	1142.0	1168.4	1167.6
37.5°	1052.0	1067.4	1103.7	1111.1	1104.3
40°	1000.2	1015.5	1048.4	1056.3	1053.0
42.5°	961.9	964.7	992.8	1001.9	987.4
45°	895.3	912.0	927.2	951.1	928.5
47.5°	838.6	846.4	879.0	885.4	873.6
50°	787.1	789.9	822.7	814.7	807.0
52.5°	722.5	733.9	752.4	750.8	741.7
55°	669.3	664.8	682.3	677.6	677.4
57.5°	605.4	613.1	627.5	620.1	608.3
60°	545.5	545.7	551.0	542.6	541.1
62.5°	478.9	481.3	482.4	472.1	488.8
65°	411.1	405.7	421.6	405.5	408.2
67.5°	348.8	351.5	350.0	339.9	343.8
70°	285.5	289.0	286.5	275.0	278.5
72.5°	227.6	223.3	226.1	211.7	218.3
75°	171.1	167.6	170.7	158.7	164.1
77.5°	116.5	119.2	117.3	110.9	114.6
80°	76.9	74.8	74.8	71.1	71.9
82.5°	44.9	42.7	42.1	41.0	42.7
85°	21.0	20.4	20.8	20.2	19.4
87.5°	7.6	7.8	7.8	7.4	7.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)