

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: P590374

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-82-85-EDD

Issue Date: 12/8/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P590374  
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-LD4-2STD-40-UNV-82-85-EDD  
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

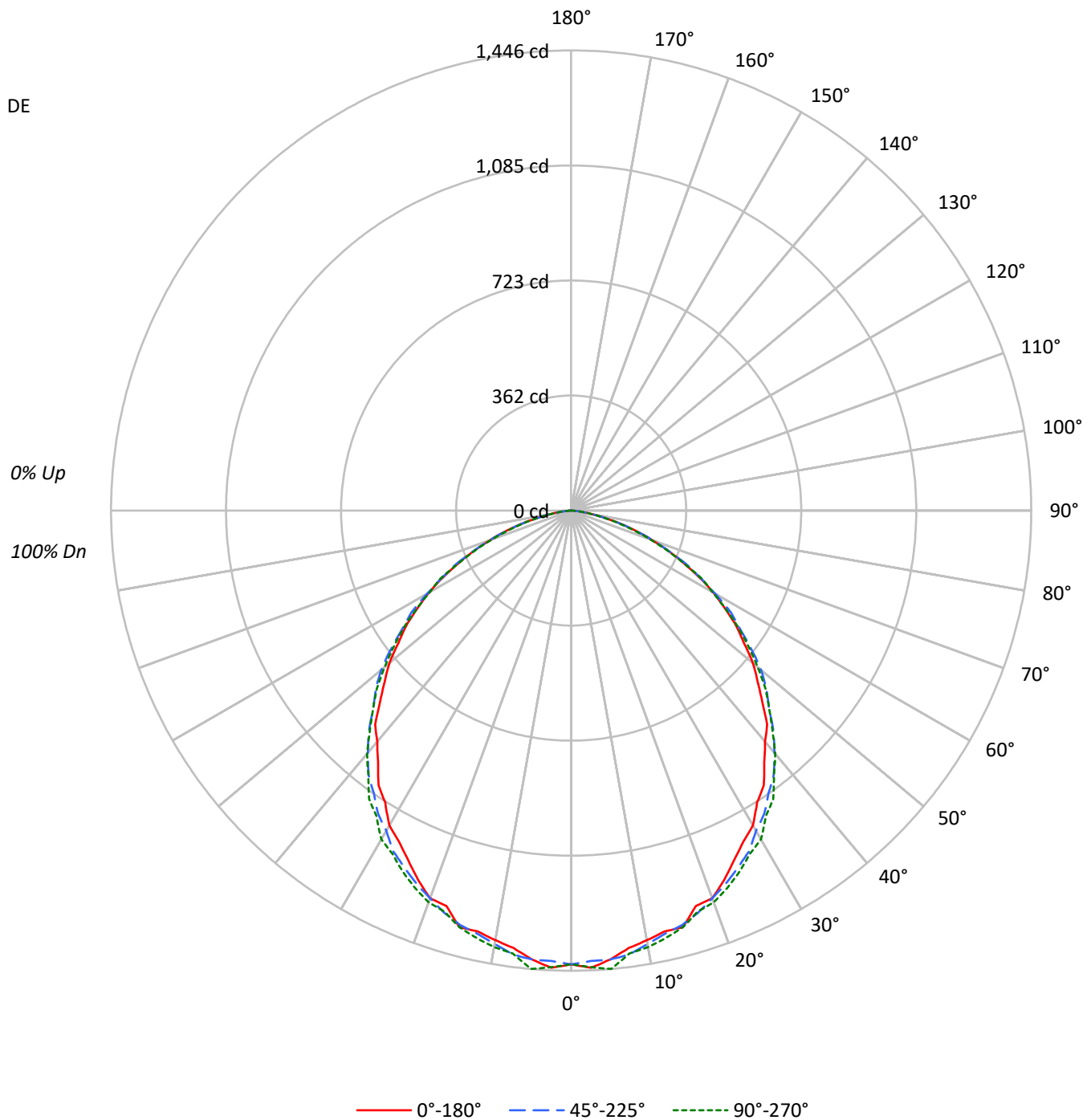
Lumens per Lamp: N/A  
Luminaire Lumens: 3593.0 lumens  
Efficiency: N/A  
Efficacy: 107.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
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°	3836	3836	3836
5°	3824	3825	3906
10°	3746	3779	3806
15°	3776	3755	3776
20°	3712	3712	3751
25°	3598	3676	3717
30°	3549	3611	3707
35°	3465	3555	3635
40°	3330	3490	3506
45°	3229	3344	3349
50°	3123	3264	3202
55°	2976	3034	3012
60°	2782	2810	2760
65°	2481	2544	2464
70°	2129	2136	2077
75°	1686	1682	1617
80°	1130	1099	1055
85°	614	608	568

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 67.5°  
 Vertical Angle: 45°  
 Luminance: 3430 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.1	3.7
10°-20°	380.1	10.6
20°-30°	569.4	15.8
30°-40°	674.9	18.8
40°-50°	676.1	18.8
50°-60°	573.9	16.0
60°-70°	386.9	10.8
70°-80°	170.0	4.7
80°-90°	27.6	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°	1083.6	30.2
0°-40°	1758.4	48.9
0°-60°	3008.4	83.7
0°-90°	3593.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3593.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1426	1426	1426	1426	1426	
5°	1416	1412	1416	1412	1446	133
15°	1355	1340	1348	1355	1356	378
25°	1212	1218	1238	1254	1252	560
35°	1055	1058	1082	1107	1107	655
45°	849	864	879	901	880	656
55°	634	630	647	642	642	564
65°	390	384	400	384	387	388
75°	162	159	162	150	156	174
85°	20	19	20	19	18	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1425.6	1425.6	1425.6	1425.6	1425.6
2.5°	1437.9	1427.1	1417.0	1428.7	1435.9
5°	1415.5	1412.2	1416.0	1411.8	1445.9
7.5°	1386.4	1399.1	1406.5	1401.9	1403.9
10°	1370.9	1366.5	1382.9	1394.3	1392.7
12.5°	1354.4	1361.0	1361.9	1374.3	1375.4
15°	1355.3	1339.7	1347.9	1354.9	1355.5
17.5°	1302.7	1319.6	1325.3	1341.3	1321.4
20°	1296.2	1283.9	1296.2	1312.6	1310.0
22.5°	1256.6	1242.8	1269.3	1283.9	1283.0
25°	1211.7	1218.4	1238.2	1254.4	1251.9
27.5°	1172.3	1180.1	1208.4	1230.7	1216.3
30°	1142.0	1138.1	1162.0	1181.9	1192.9
32.5°	1087.7	1101.7	1129.6	1149.3	1138.8
35°	1054.7	1057.8	1082.3	1107.4	1106.6
37.5°	997.1	1011.6	1046.1	1053.1	1046.6
40°	948.0	962.5	993.6	1001.1	998.0
42.5°	911.7	914.3	941.0	949.6	935.8
45°	848.6	864.4	878.7	901.4	880.0
47.5°	794.8	802.2	833.1	839.2	827.9
50°	746.0	748.6	779.7	772.2	764.8
52.5°	684.7	695.6	713.1	711.6	703.0
55°	634.3	630.1	646.6	642.2	642.0
57.5°	573.7	581.1	594.7	587.7	576.5
60°	517.0	517.2	522.2	514.3	512.8
62.5°	453.9	456.1	457.2	447.5	463.3
65°	389.7	384.5	399.6	384.3	386.9
67.5°	330.6	333.2	331.7	322.1	325.8
70°	270.6	273.9	271.5	260.6	264.0
72.5°	215.7	211.7	214.3	200.6	206.9
75°	162.2	158.9	161.8	150.4	155.5
77.5°	110.4	113.0	111.2	105.1	108.6
80°	72.9	70.9	70.9	67.4	68.1
82.5°	42.5	40.5	39.9	38.8	40.5
85°	19.9	19.3	19.7	19.1	18.4
87.5°	7.2	7.4	7.4	7.0	6.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)