

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: P560643

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-81-85-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P560643  
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-12-2-LD4-2STD-40-UNV-81-85-EDD  
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

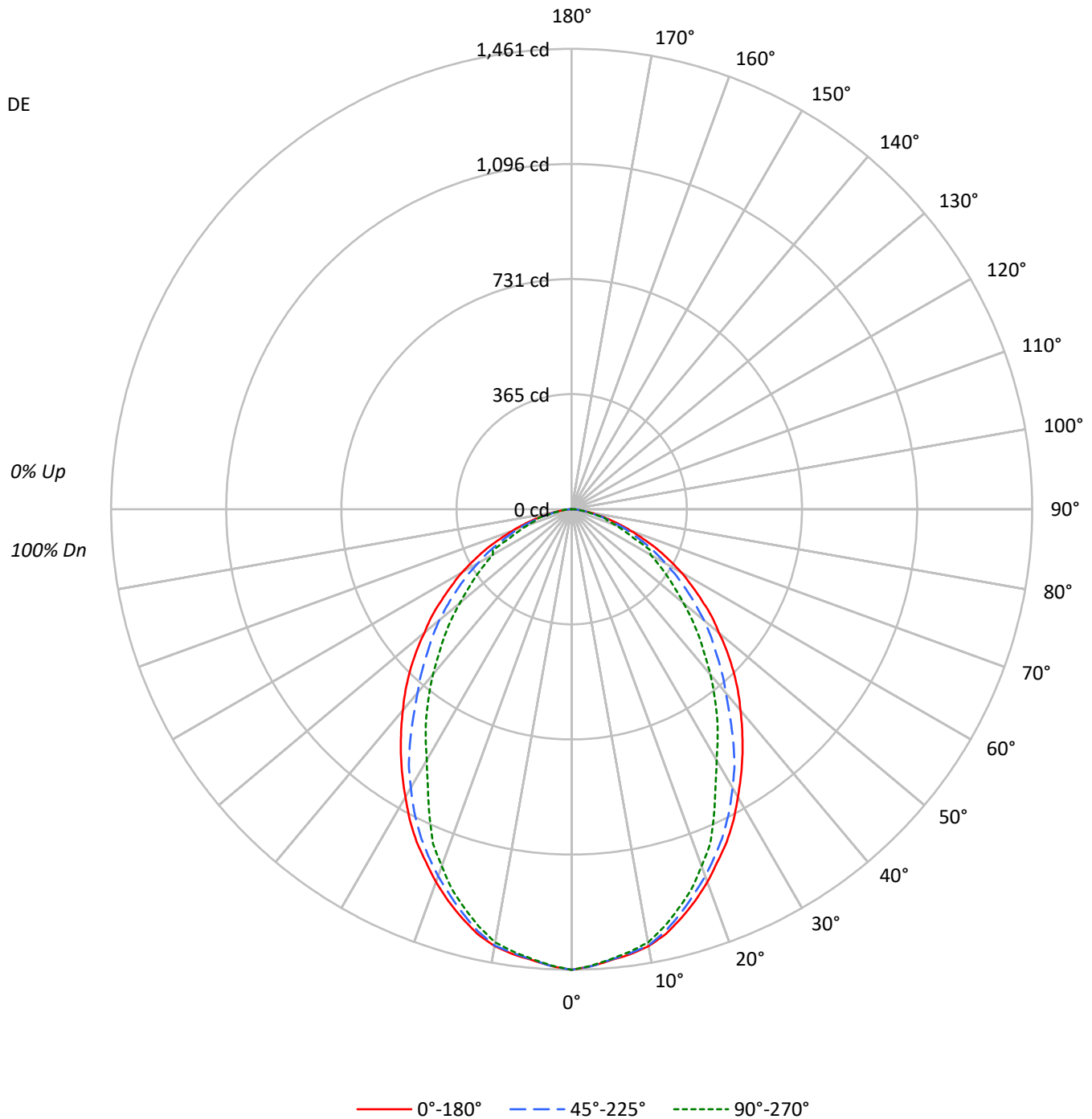
Lumens per Lamp: N/A  
Luminaire Lumens: 2869.0 lumens  
Efficiency: N/A  
Efficacy: 86.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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	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°	7865	7865	7865
5°	7759	7749	7740
10°	7691	7682	7626
15°	7484	7408	7305
20°	7209	7093	6899
25°	6913	6762	6341
30°	6552	6342	5712
35°	6205	5861	5284
40°	5852	5342	4808
45°	5517	4938	4347
50°	5107	4583	3876
55°	4724	4154	3472
60°	4328	3710	3110
65°	3808	3249	2755
70°	3138	2845	2340
75°	2495	2177	2283
80°	1677	1571	1466
85°	1044	1254	1463

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5517 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.0	4.7
10°-20°	373.3	13.0
20°-30°	516.9	18.0
30°-40°	551.1	19.2
40°-50°	502.8	17.5
50°-60°	393.9	13.7
60°-70°	256.7	8.9
70°-80°	113.7	4.0
80°-90°	24.4	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°	1026.3	35.8
0°-40°	1577.4	55.0
0°-60°	2474.1	86.2
0°-90°	2869.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2869.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1461	1461	1461	1461	1461	
5°	1436	1434	1434	1433	1433	136
15°	1343	1343	1330	1316	1311	378
25°	1164	1157	1139	1098	1068	534
35°	944	938	892	824	804	590
45°	725	710	649	595	571	558
55°	504	488	443	390	370	452
65°	299	282	255	260	216	295
75°	120	112	105	100	110	129
85°	17	19	20	22	24	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1461.4	1461.4	1461.4	1461.4	1461.4
2.5°	1451.3	1451.3	1451.3	1449.6	1449.6
5°	1436.1	1434.4	1434.4	1432.7	1432.7
7.5°	1424.3	1422.6	1420.9	1419.2	1415.8
10°	1407.4	1407.4	1405.7	1397.2	1395.5
12.5°	1380.3	1378.6	1371.9	1360.1	1356.7
15°	1343.2	1343.2	1329.6	1316.1	1311.1
17.5°	1302.6	1300.9	1284.0	1270.5	1263.8
20°	1258.7	1255.3	1238.4	1216.5	1204.6
22.5°	1209.7	1209.7	1189.4	1160.7	1148.9
25°	1164.1	1157.3	1138.7	1098.2	1067.8
27.5°	1111.7	1101.6	1081.3	1023.8	988.4
30°	1054.3	1049.2	1020.5	946.1	919.1
32.5°	1000.2	991.7	961.3	883.6	861.7
35°	944.4	937.7	892.1	824.5	804.2
37.5°	888.7	880.2	822.8	768.7	743.4
40°	832.9	822.8	760.3	711.3	684.3
42.5°	780.6	767.0	706.2	653.8	623.4
45°	724.8	709.6	648.8	594.7	571.1
47.5°	669.0	655.5	599.8	544.0	517.0
50°	609.9	598.1	547.4	491.6	462.9
52.5°	560.9	542.3	493.3	437.6	413.9
55°	503.5	488.3	442.7	390.3	370.0
57.5°	451.1	435.9	393.7	344.7	327.8
60°	402.1	380.1	344.7	302.4	288.9
62.5°	348.0	331.1	300.7	265.3	282.1
65°	299.0	282.1	255.1	260.2	216.3
67.5°	245.0	236.5	212.9	189.2	182.5
70°	199.4	189.2	180.8	155.4	148.7
72.5°	158.8	148.7	136.9	123.3	118.3
75°	120.0	111.5	104.7	99.7	109.8
77.5°	82.8	79.4	74.3	69.3	67.6
80°	54.1	52.4	50.7	49.0	47.3
82.5°	32.1	32.1	32.1	32.1	32.1
85°	16.9	18.6	20.3	22.0	23.7
87.5°	10.1	10.1	11.8	13.5	15.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)