

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: P562072

Luminaire Tested: FSR-24-4-LD4-1HI-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562072  
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-24-4-LD4-1HI-40-UNV-82-88-EDD-90  
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

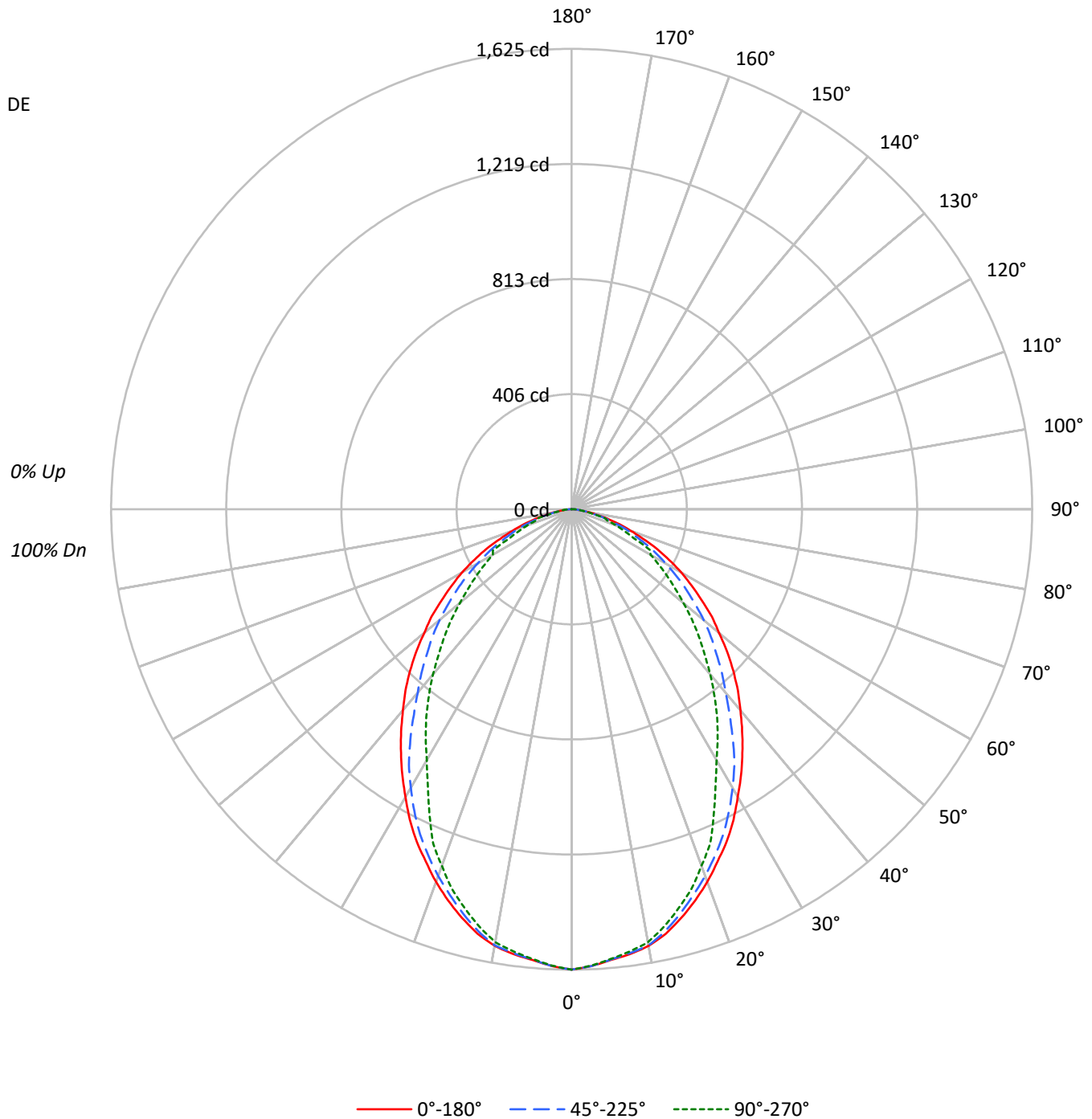
Lumens per Lamp: N/A  
Luminaire Lumens: 3190.0 lumens  
Efficiency: N/A  
Efficacy: 73.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 43.2  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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	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°	2186	2186	2186
5°	2157	2154	2152
10°	2138	2135	2120
15°	2080	2059	2031
20°	2004	1972	1918
25°	1921	1880	1762
30°	1821	1763	1588
35°	1725	1629	1469
40°	1627	1485	1336
45°	1533	1373	1208
50°	1420	1274	1077
55°	1313	1155	965
60°	1203	1031	864
65°	1059	903	766
70°	872	791	650
75°	693	606	635
80°	466	437	408
85°	290	347	406

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 1533 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.3	4.7
10°-20°	415.1	13.0
20°-30°	574.7	18.0
30°-40°	612.8	19.2
40°-50°	559.1	17.5
50°-60°	438.0	13.7
60°-70°	285.5	8.9
70°-80°	126.5	4.0
80°-90°	27.2	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°	1141.1	35.8
0°-40°	1753.9	55.0
0°-60°	2750.9	86.2
0°-90°	3190.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3190.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1597	1595	1595	1593	1593	152
15°	1493	1493	1478	1463	1458	420
25°	1294	1287	1266	1221	1187	594
35°	1050	1043	992	917	894	657
45°	806	789	721	661	635	621
55°	560	543	492	434	411	502
65°	332	314	284	289	240	328
75°	133	124	116	111	122	143
85°	19	21	22	24	26	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1624.9	1624.9	1624.9	1624.9	1624.9
2.5°	1613.7	1613.7	1613.7	1611.8	1611.8
5°	1596.8	1594.9	1594.9	1593.0	1593.0
7.5°	1583.6	1581.7	1579.9	1578.0	1574.2
10°	1564.8	1564.8	1563.0	1553.6	1551.7
12.5°	1534.8	1532.9	1525.4	1512.2	1508.5
15°	1493.4	1493.4	1478.4	1463.4	1457.8
17.5°	1448.4	1446.5	1427.7	1412.7	1405.2
20°	1399.5	1395.8	1377.0	1352.6	1339.4
22.5°	1345.0	1345.0	1322.5	1290.6	1277.4
25°	1294.3	1286.8	1266.1	1221.1	1187.2
27.5°	1236.1	1224.8	1202.3	1138.4	1099.0
30°	1172.2	1166.6	1134.6	1052.0	1021.9
32.5°	1112.1	1102.7	1068.9	982.5	958.1
35°	1050.1	1042.6	991.9	916.7	894.2
37.5°	988.1	978.7	914.9	854.7	826.6
40°	926.1	914.9	845.3	790.9	760.8
42.5°	867.9	852.9	785.2	727.0	693.2
45°	805.9	789.0	721.4	661.2	634.9
47.5°	743.9	728.9	666.9	604.9	574.8
50°	678.2	665.0	608.6	546.7	514.7
52.5°	623.7	603.0	548.5	486.5	460.2
55°	559.8	542.9	492.2	433.9	411.4
57.5°	501.6	484.7	437.7	383.2	364.4
60°	447.1	422.7	383.2	336.3	321.2
62.5°	387.0	368.2	334.4	294.9	313.7
65°	332.5	313.7	283.7	289.3	240.5
67.5°	272.4	263.0	236.7	210.4	202.9
70°	221.7	210.4	201.0	172.8	165.3
72.5°	176.6	165.3	152.2	137.1	131.5
75°	133.4	124.0	116.5	110.8	122.1
77.5°	92.0	88.3	82.7	77.0	75.1
80°	60.1	58.2	56.4	54.5	52.6
82.5°	35.7	35.7	35.7	35.7	35.7
85°	18.8	20.7	22.5	24.4	26.3
87.5°	11.3	11.3	13.1	15.0	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)