

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: P562497

Luminaire Tested: FSR-24-4-LD4-2HI-35-UNV-81-84-EDD

Issue Date: 7/20/2021

**Test Information**

Test Method: LM-79-2019  
Report Number: P562497  
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-LD4-2HI-35-UNV-81-84-EDD  
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI  
LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

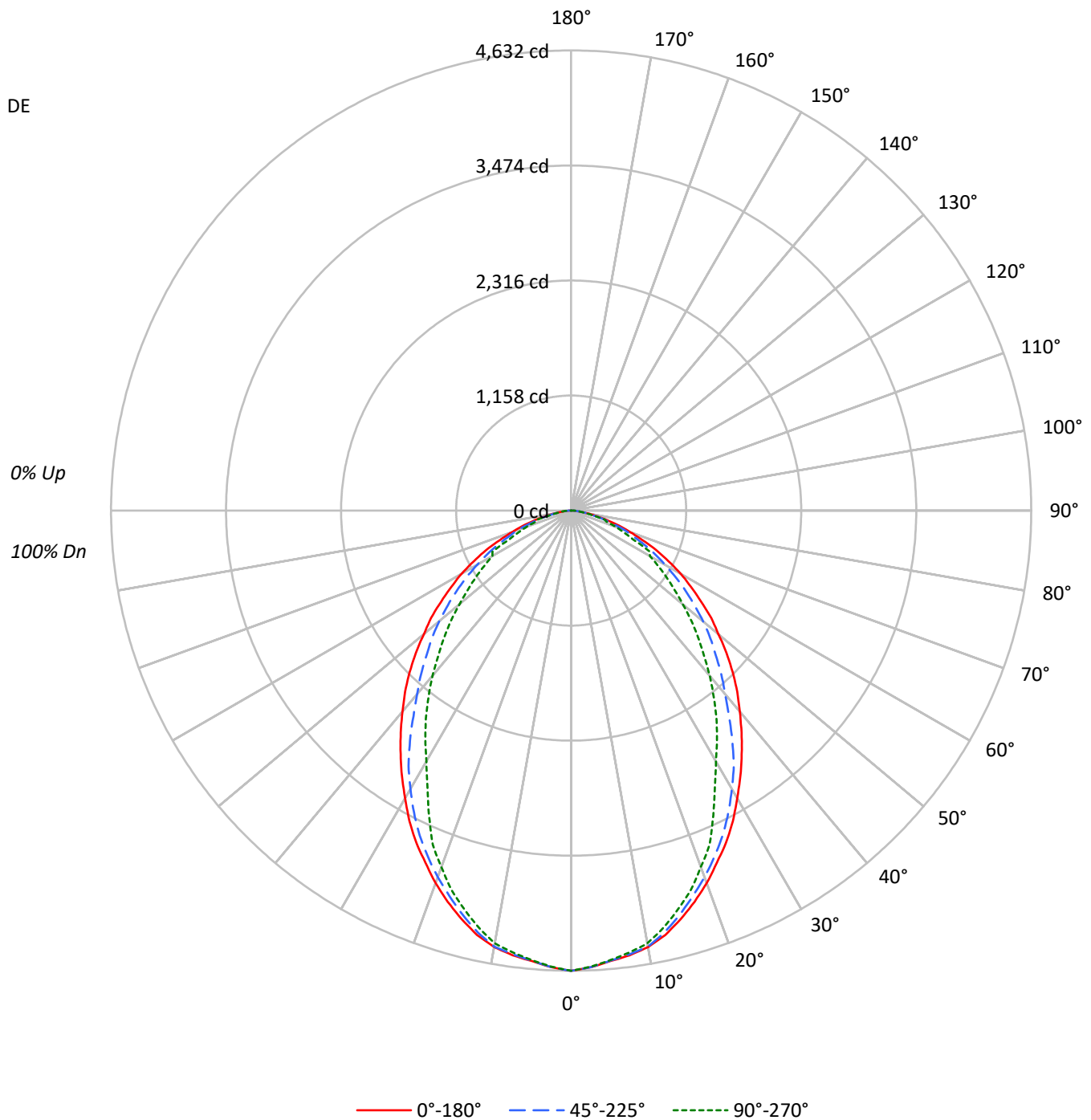
Lumens per Lamp: N/A  
Luminaire Lumens: 9094.0 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.4  
Input Voltage (V):  
Input Current (Ain): NR  
Voltage 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									100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6233	6233	6233
5°	6148	6141	6134
10°	6095	6087	6044
15°	5930	5871	5789
20°	5713	5621	5467
25°	5478	5359	5025
30°	5192	5025	4526
35°	4917	4644	4187
40°	4637	4233	3809
45°	4372	3913	3444
50°	4047	3632	3072
55°	3744	3291	2751
60°	3430	2940	2464
65°	3018	2575	2182
70°	2486	2254	1854
75°	1976	1726	1810
80°	1328	1245	1161
85°	827	993	1158

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 4372 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	431.2	4.7
10°-20°	1183.4	13.0
20°-30°	1638.4	18.0
30°-40°	1747.0	19.2
40°-50°	1593.7	17.5
50°-60°	1248.6	13.7
60°-70°	813.8	8.9
70°-80°	360.5	4.0
80°-90°	77.4	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°	3253.0	35.8
0°-40°	5000.0	55.0
0°-60°	7842.3	86.2
0°-90°	9094.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9094.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4632	4632	4632	4632	4632	
5°	4552	4547	4547	4541	4541	432
15°	4258	4258	4215	4172	4156	1197
25°	3690	3668	3610	3481	3385	1694
35°	2994	2972	2828	2613	2549	1872
45°	2297	2249	2056	1885	1810	1770
55°	1596	1548	1403	1237	1173	1431
65°	948	894	809	825	686	934
75°	380	354	332	316	348	407
85°	54	59	64	70	75	74
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4632.4	4632.4	4632.4	4632.4	4632.4
2.5°	4600.2	4600.2	4600.2	4594.9	4594.9
5°	4552.0	4546.7	4546.7	4541.3	4541.3
7.5°	4514.5	4509.2	4503.8	4498.5	4487.8
10°	4461.0	4461.0	4455.6	4428.9	4423.5
12.5°	4375.3	4370.0	4348.5	4311.0	4300.3
15°	4257.5	4257.5	4214.6	4171.8	4155.7
17.5°	4129.0	4123.6	4070.1	4027.2	4005.8
20°	3989.7	3979.0	3925.5	3855.8	3818.4
22.5°	3834.4	3834.4	3770.2	3679.1	3641.6
25°	3689.8	3668.4	3609.5	3481.0	3384.6
27.5°	3523.8	3491.7	3427.4	3245.3	3132.9
30°	3341.7	3325.7	3234.6	2999.0	2913.3
32.5°	3170.4	3143.6	3047.2	2800.8	2731.2
35°	2993.6	2972.2	2827.6	2613.4	2549.1
37.5°	2816.9	2790.1	2608.0	2436.7	2356.3
40°	2640.2	2608.0	2409.9	2254.6	2168.9
42.5°	2474.2	2431.3	2238.5	2072.5	1976.1
45°	2297.4	2249.2	2056.4	1885.1	1810.1
47.5°	2120.7	2077.9	1901.1	1724.4	1638.7
50°	1933.3	1895.8	1735.1	1558.4	1467.4
52.5°	1778.0	1719.1	1563.8	1387.0	1312.1
55°	1595.9	1547.7	1403.1	1237.1	1172.8
57.5°	1429.9	1381.7	1247.8	1092.5	1038.9
60°	1274.6	1204.9	1092.5	958.6	915.8
62.5°	1103.2	1049.6	953.2	840.8	894.3
65°	947.9	894.3	808.7	824.7	685.5
67.5°	776.5	749.7	674.8	599.8	578.4
70°	631.9	599.8	573.0	492.7	471.3
72.5°	503.4	471.3	433.8	390.9	374.9
75°	380.2	353.5	332.0	316.0	348.1
77.5°	262.4	251.7	235.6	219.6	214.2
80°	171.4	166.0	160.7	155.3	149.9
82.5°	101.8	101.8	101.8	101.8	101.8
85°	53.6	58.9	64.3	69.6	75.0
87.5°	32.1	32.1	37.5	42.8	48.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)