

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: P563085

Luminaire Tested: FSR-24-4-LD4-3HI-35-UNV-81-96-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563085
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-LD4-3HI-35-UNV-81-96-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13522.0 lumens
Efficiency: N/A
Efficacy: 104.3 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

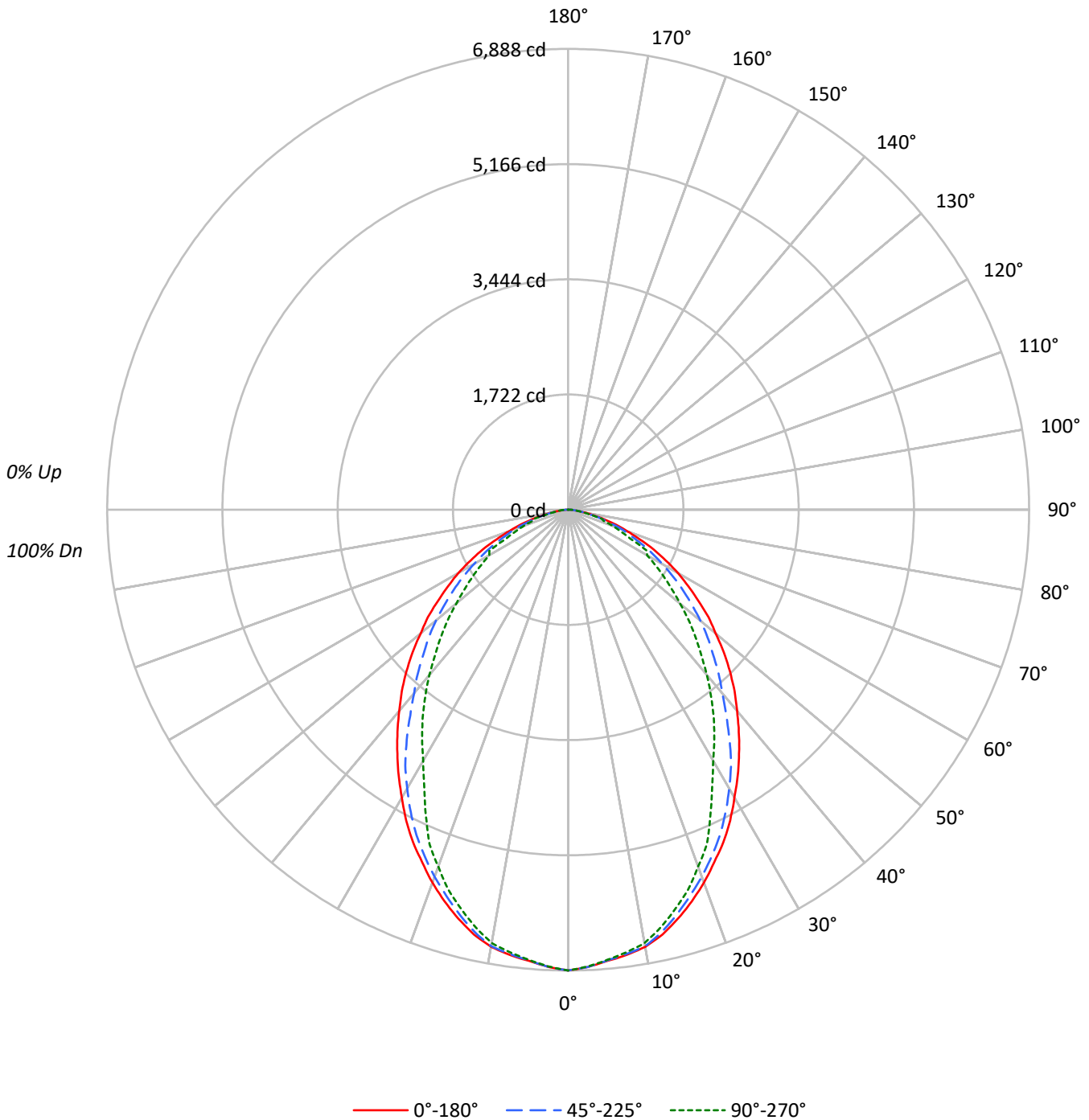
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9268	9268	9268
5°	9142	9131	9120
10°	9062	9052	8986
15°	8818	8729	8607
20°	8494	8357	8129
25°	8145	7968	7471
30°	7720	7472	6730
35°	7311	6906	6226
40°	6895	6294	5664
45°	6500	5818	5121
50°	6017	5400	4567
55°	5567	4894	4091
60°	5100	4371	3664
65°	4487	3828	3245
70°	3696	3352	2757
75°	2939	2567	2691
80°	1974	1851	1728
85°	1229	1476	1721

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6500 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	641.2	4.7
10°-20°	1759.6	13.0
20°-30°	2436.1	18.0
30°-40°	2597.6	19.2
40°-50°	2369.8	17.5
50°-60°	1856.5	13.7
60°-70°	1210.0	8.9
70°-80°	536.1	4.0
80°-90°	115.1	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°	4836.9	35.8
0°-40°	7434.5	55.0
0°-60°	11660.8	86.2
0°-90°	13522.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13522.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6888	6888	6888	6888	6888	
5°	6768	6760	6760	6753	6753	642
15°	6330	6330	6267	6203	6179	1780
25°	5486	5455	5367	5176	5033	2519
35°	4451	4419	4204	3886	3790	2783
45°	3416	3344	3058	2803	2692	2631
55°	2373	2301	2086	1839	1744	2128
65°	1409	1330	1202	1226	1019	1389
75°	565	526	494	470	518	606
85°	80	88	96	104	112	110
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6887.9	6887.9	6887.9	6887.9	6887.9
2.5°	6840.1	6840.1	6840.1	6832.2	6832.2
5°	6768.5	6760.5	6760.5	6752.6	6752.6
7.5°	6712.7	6704.8	6696.8	6688.9	6672.9
10°	6633.1	6633.1	6625.1	6585.3	6577.4
12.5°	6505.7	6497.7	6465.9	6410.2	6394.2
15°	6330.5	6330.5	6266.8	6203.1	6179.2
17.5°	6139.4	6131.4	6051.8	5988.1	5956.3
20°	5932.4	5916.4	5836.8	5733.3	5677.6
22.5°	5701.5	5701.5	5605.9	5470.5	5414.8
25°	5486.5	5454.6	5367.0	5175.9	5032.6
27.5°	5239.6	5191.8	5096.3	4825.5	4658.3
30°	4968.9	4945.0	4809.6	4459.2	4331.8
32.5°	4714.0	4674.2	4530.9	4164.6	4061.1
35°	4451.3	4419.4	4204.4	3885.9	3790.4
37.5°	4188.5	4148.7	3877.9	3623.1	3503.7
40°	3925.7	3877.9	3583.3	3352.4	3225.0
42.5°	3678.9	3615.2	3328.5	3081.7	2938.3
45°	3416.1	3344.4	3057.8	2802.9	2691.5
47.5°	3153.3	3089.6	2826.8	2564.1	2436.7
50°	2874.6	2818.9	2580.0	2317.2	2181.8
52.5°	2643.7	2556.1	2325.2	2062.4	1950.9
55°	2373.0	2301.3	2086.3	1839.4	1743.9
57.5°	2126.1	2054.4	1855.4	1624.4	1544.8
60°	1895.2	1791.7	1624.4	1425.4	1361.7
62.5°	1640.4	1560.7	1417.4	1250.2	1329.8
65°	1409.4	1329.8	1202.4	1226.3	1019.3
67.5°	1154.6	1114.8	1003.3	891.8	860.0
70°	939.6	891.8	852.0	732.6	700.7
72.5°	748.5	700.7	645.0	581.3	557.4
75°	565.4	525.6	493.7	469.8	517.6
77.5°	390.2	374.3	350.4	326.5	318.5
80°	254.8	246.9	238.9	230.9	223.0
82.5°	151.3	151.3	151.3	151.3	151.3
85°	79.6	87.6	95.6	103.5	111.5
87.5°	47.8	47.8	55.7	63.7	71.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)