

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: P563689

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563689
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-LD4-4HI-35-UNV-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16199.0 lumens
Efficiency: N/A
Efficacy: 93.7 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

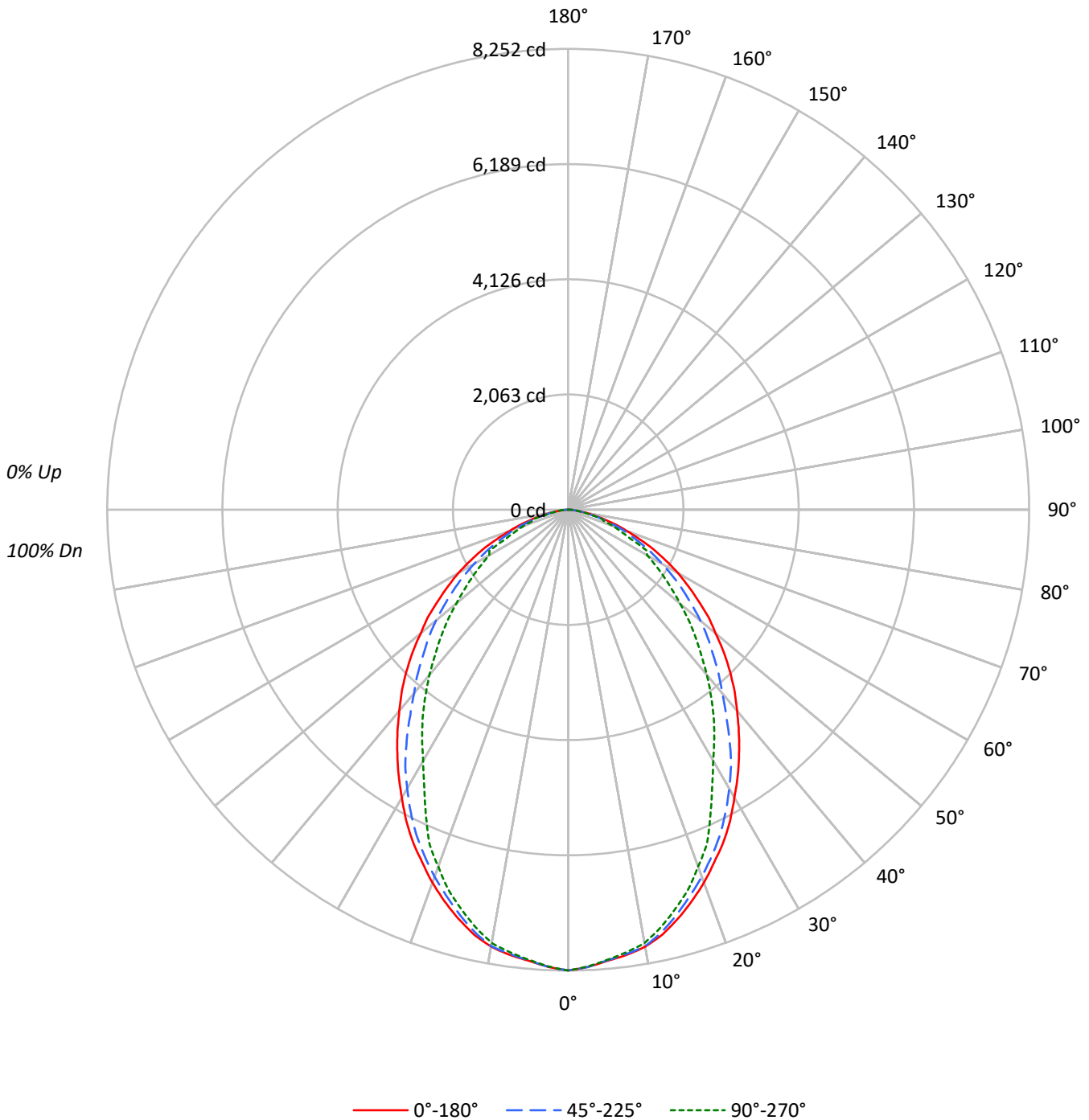
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	11102	11102	11102
5°	10952	10939	10926
10°	10857	10844	10765
15°	10564	10458	10311
20°	10176	10012	9739
25°	9758	9545	8950
30°	9248	8952	8062
35°	8759	8273	7458
40°	8260	7540	6786
45°	7787	6970	6135
50°	7208	6470	5471
55°	6668	5863	4901
60°	6110	5237	4390
65°	5376	4586	3887
70°	4428	4015	3303
75°	3521	3074	3224
80°	2366	2218	2070
85°	1473	1768	2062

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7787 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	768.1	4.7
10°-20°	2108.0	13.0
20°-30°	2918.4	18.0
30°-40°	3111.9	19.2
40°-50°	2838.9	17.5
50°-60°	2224.1	13.7
60°-70°	1449.5	8.9
70°-80°	642.2	4.0
80°-90°	137.9	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°	5794.5	35.8
0°-40°	8906.4	55.0
0°-60°	13969.4	86.2
0°-90°	16199.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16199.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8252	8252	8252	8252	8252	
5°	8108	8099	8099	8089	8089	770
15°	7584	7584	7508	7431	7403	2132
25°	6573	6534	6430	6201	6029	3017
35°	5332	5294	5037	4655	4541	3334
45°	4092	4006	3663	3358	3224	3152
55°	2843	2757	2499	2204	2089	2550
65°	1688	1593	1440	1469	1221	1664
75°	677	630	591	563	620	726
85°	95	105	114	124	134	132
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8251.6	8251.6	8251.6	8251.6	8251.6
2.5°	8194.3	8194.3	8194.3	8184.8	8184.8
5°	8108.5	8098.9	8098.9	8089.4	8089.4
7.5°	8041.7	8032.1	8022.6	8013.1	7994.0
10°	7946.3	7946.3	7936.8	7889.1	7879.5
12.5°	7793.7	7784.1	7746.0	7679.2	7660.1
15°	7583.8	7583.8	7507.5	7431.2	7402.6
17.5°	7354.9	7345.3	7249.9	7173.6	7135.4
20°	7106.8	7087.8	6992.4	6868.3	6801.6
22.5°	6830.2	6830.2	6715.7	6553.5	6486.8
25°	6572.6	6534.5	6429.5	6200.6	6028.9
27.5°	6276.9	6219.7	6105.2	5780.9	5580.5
30°	5952.6	5923.9	5761.8	5342.0	5189.4
32.5°	5647.3	5599.6	5427.9	4989.1	4865.1
35°	5332.5	5294.3	5036.8	4655.2	4540.7
37.5°	5017.7	4970.0	4645.7	4340.4	4197.3
40°	4702.9	4645.7	4292.7	4016.1	3863.4
42.5°	4407.2	4330.9	3987.5	3691.7	3520.0
45°	4092.4	4006.5	3663.1	3357.9	3224.3
47.5°	3777.6	3701.3	3386.5	3071.7	2919.0
50°	3443.7	3376.9	3090.8	2776.0	2613.8
52.5°	3167.1	3062.1	2785.5	2470.7	2337.1
55°	2842.7	2756.9	2499.3	2203.6	2089.1
57.5°	2547.0	2461.2	2222.7	1946.0	1850.6
60°	2270.4	2146.4	1946.0	1707.5	1631.2
62.5°	1965.1	1869.7	1698.0	1497.7	1593.1
65°	1688.5	1593.1	1440.4	1469.1	1221.0
67.5°	1383.2	1335.5	1202.0	1068.4	1030.3
70°	1125.6	1068.4	1020.7	877.6	839.5
72.5°	896.7	839.5	772.7	696.4	667.8
75°	677.3	629.6	591.4	562.8	620.1
77.5°	467.4	448.4	419.7	391.1	381.6
80°	305.3	295.7	286.2	276.6	267.1
82.5°	181.2	181.2	181.2	181.2	181.2
85°	95.4	104.9	114.5	124.0	133.6
87.5°	57.2	57.2	66.8	76.3	85.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)