

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: P562982

Luminaire Tested: FSR-24-4-LD4-2STD-40-UNV-93-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562982
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-LD4-2STD-40-UNV-93-87-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6223.0 lumens
Efficiency: N/A
Efficacy: 93.4 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

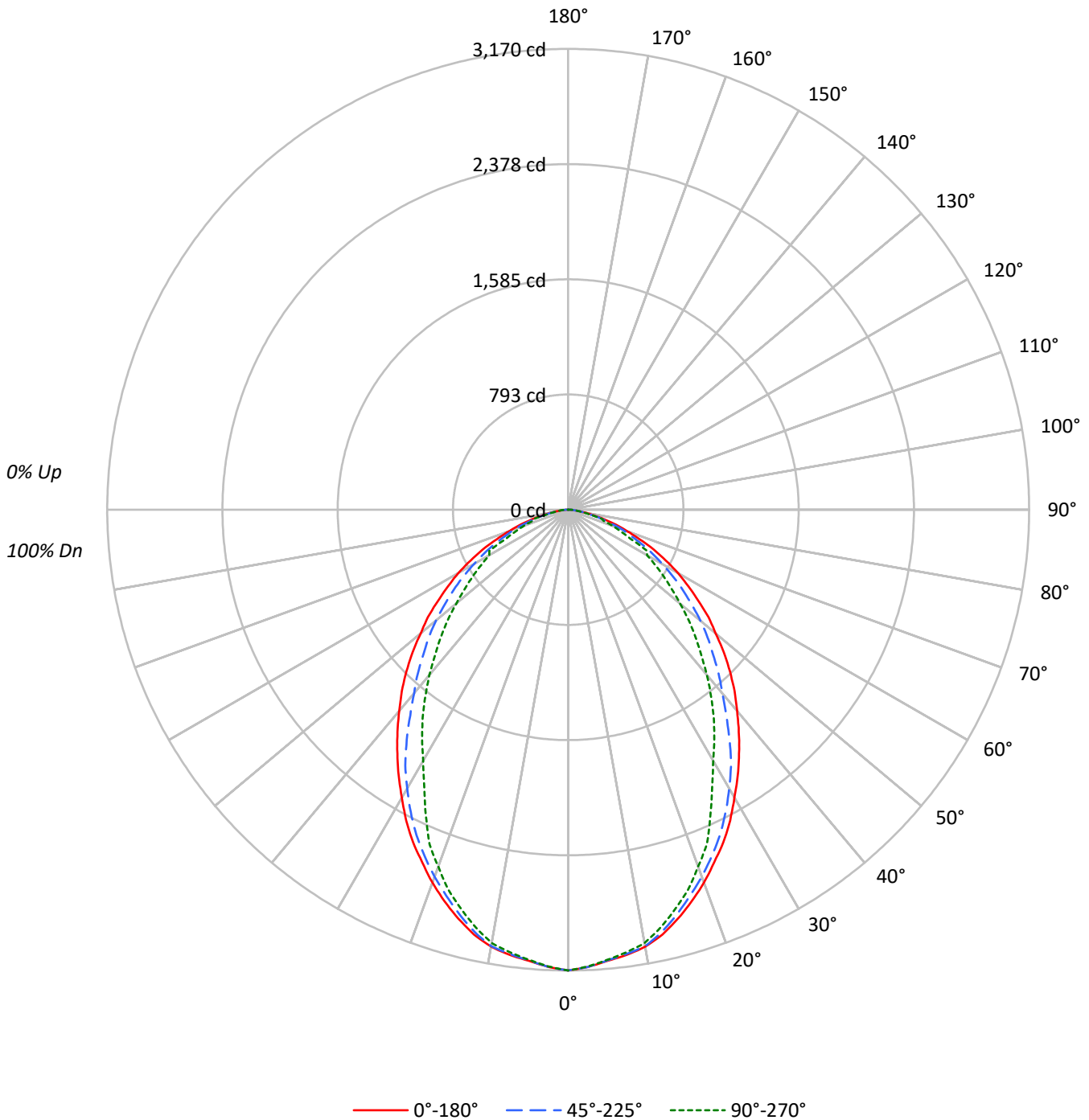
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4265	4265	4265
5°	4207	4202	4197
10°	4171	4166	4136
15°	4058	4017	3961
20°	3909	3846	3741
25°	3748	3667	3438
30°	3553	3439	3097
35°	3365	3178	2865
40°	3173	2896	2607
45°	2991	2678	2357
50°	2769	2485	2102
55°	2562	2252	1883
60°	2347	2012	1686
65°	2065	1762	1493
70°	1701	1543	1269
75°	1353	1181	1238
80°	909	852	795
85°	565	679	792

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2991 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	295.1	4.7
10°-20°	809.8	13.0
20°-30°	1121.1	18.0
30°-40°	1195.4	19.2
40°-50°	1090.6	17.5
50°-60°	854.4	13.7
60°-70°	556.8	8.9
70°-80°	246.7	4.0
80°-90°	53.0	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°	2226.0	35.8
0°-40°	3421.5	55.0
0°-60°	5366.5	86.2
0°-90°	6223.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6223.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3170	3170	3170	3170	3170	
5°	3115	3111	3111	3108	3108	296
15°	2913	2913	2884	2855	2844	819
25°	2525	2510	2470	2382	2316	1159
35°	2048	2034	1935	1788	1744	1281
45°	1572	1539	1407	1290	1239	1211
55°	1092	1059	960	846	803	980
65°	649	612	553	564	469	639
75°	260	242	227	216	238	279
85°	37	40	44	48	51	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3169.9	3169.9	3169.9	3169.9	3169.9
2.5°	3147.9	3147.9	3147.9	3144.3	3144.3
5°	3114.9	3111.3	3111.3	3107.6	3107.6
7.5°	3089.3	3085.6	3082.0	3078.3	3071.0
10°	3052.6	3052.6	3049.0	3030.7	3027.0
12.5°	2994.0	2990.3	2975.7	2950.0	2942.7
15°	2913.4	2913.4	2884.1	2854.8	2843.8
17.5°	2825.4	2821.8	2785.1	2755.8	2741.2
20°	2730.2	2722.8	2686.2	2638.5	2612.9
22.5°	2623.9	2623.9	2579.9	2517.6	2492.0
25°	2524.9	2510.3	2470.0	2382.0	2316.1
27.5°	2411.3	2389.3	2345.4	2220.8	2143.8
30°	2286.7	2275.7	2213.4	2052.2	1993.6
32.5°	2169.5	2151.1	2085.2	1916.6	1869.0
35°	2048.5	2033.9	1934.9	1788.3	1744.4
37.5°	1927.6	1909.3	1784.7	1667.4	1612.4
40°	1806.7	1784.7	1649.1	1542.8	1484.2
42.5°	1693.1	1663.7	1531.8	1418.2	1352.3
45°	1572.1	1539.1	1407.2	1290.0	1238.6
47.5°	1451.2	1421.9	1300.9	1180.0	1121.4
50°	1322.9	1297.3	1187.3	1066.4	1004.1
52.5°	1216.7	1176.3	1070.1	949.1	897.8
55°	1092.1	1059.1	960.1	846.5	802.6
57.5°	978.5	945.5	853.9	747.6	710.9
60°	872.2	824.5	747.6	656.0	626.7
62.5°	754.9	718.3	652.3	575.3	612.0
65°	648.6	612.0	553.4	564.4	469.1
67.5°	531.4	513.0	461.7	410.4	395.8
70°	432.4	410.4	392.1	337.1	322.5
72.5°	344.5	322.5	296.8	267.5	256.5
75°	260.2	241.9	227.2	216.2	238.2
77.5°	179.6	172.2	161.2	150.3	146.6
80°	117.3	113.6	109.9	106.3	102.6
82.5°	69.6	69.6	69.6	69.6	69.6
85°	36.6	40.3	44.0	47.6	51.3
87.5°	22.0	22.0	25.7	29.3	33.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)