

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: P563151

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-97-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563151
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-40-UNV-81-97-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13167.0 lumens
Efficiency: N/A
Efficacy: 101.6 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

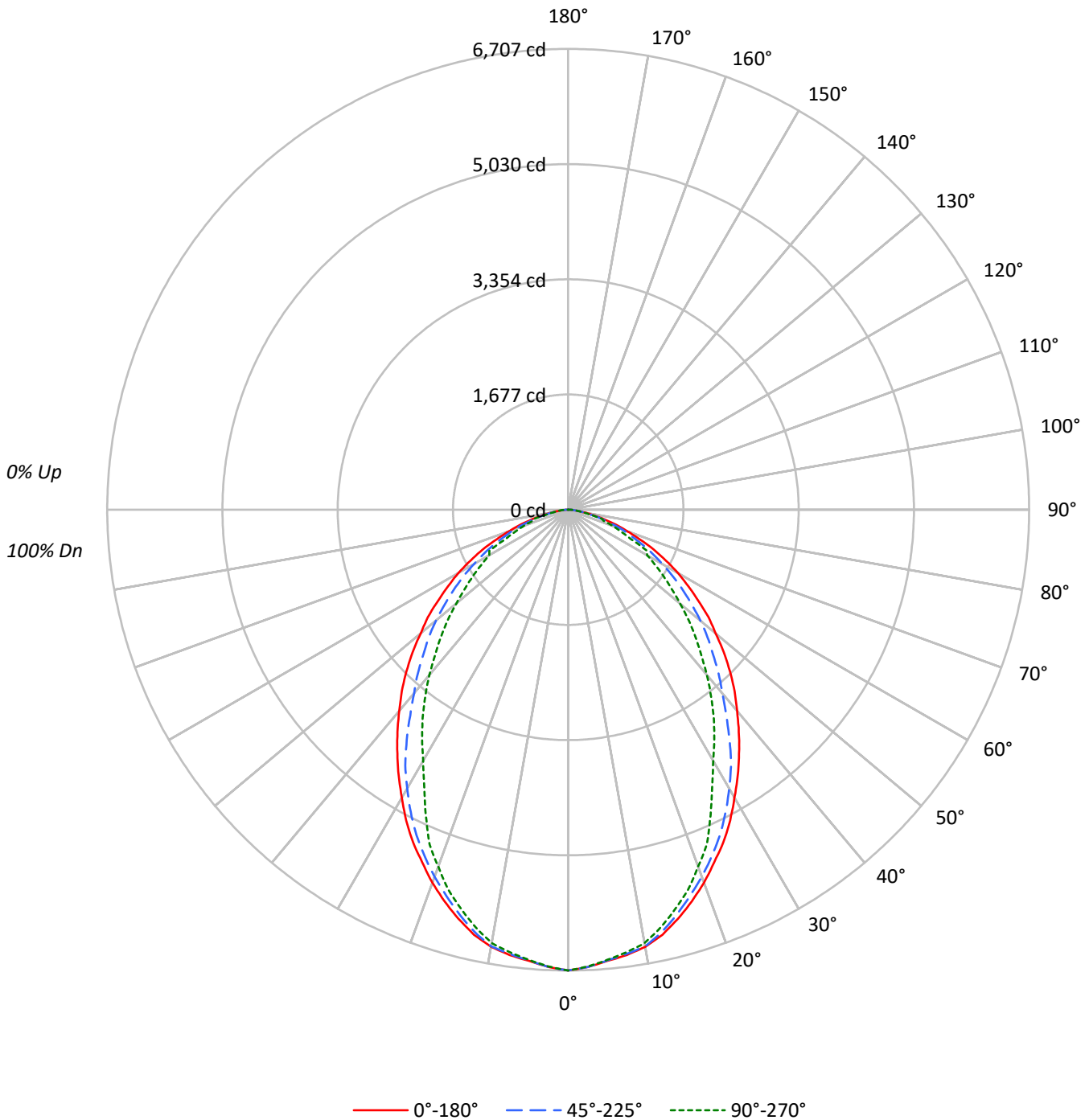
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9024	9024	9024
5°	8902	8891	8881
10°	8825	8814	8750
15°	8587	8500	8381
20°	8271	8138	7916
25°	7931	7759	7275
30°	7517	7276	6553
35°	7119	6725	6062
40°	6714	6128	5516
45°	6330	5666	4987
50°	5859	5259	4447
55°	5420	4765	3983
60°	4966	4257	3568
65°	4369	3727	3160
70°	3600	3264	2684
75°	2862	2499	2620
80°	1922	1802	1682
85°	1196	1436	1677

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6330 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	624.3	4.7
10°-20°	1713.4	13.0
20°-30°	2372.2	18.0
30°-40°	2529.4	19.2
40°-50°	2307.6	17.5
50°-60°	1807.8	13.7
60°-70°	1178.2	8.9
70°-80°	522.0	4.0
80°-90°	112.1	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°	4709.9	35.8
0°-40°	7239.3	55.0
0°-60°	11354.7	86.2
0°-90°	13167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6707	6707	6707	6707	6707	
5°	6591	6583	6583	6575	6575	626
15°	6164	6164	6102	6040	6017	1733
25°	5342	5311	5226	5040	4900	2453
35°	4334	4303	4094	3784	3691	2710
45°	3326	3257	2978	2729	2621	2562
55°	2311	2241	2032	1791	1698	2073
65°	1372	1295	1171	1194	992	1353
75°	550	512	481	458	504	590
85°	78	85	93	101	109	108
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6707.1	6707.1	6707.1	6707.1	6707.1
2.5°	6660.6	6660.6	6660.6	6652.8	6652.8
5°	6590.8	6583.0	6583.0	6575.3	6575.3
7.5°	6536.5	6528.8	6521.0	6513.2	6497.7
10°	6459.0	6459.0	6451.2	6412.4	6404.7
12.5°	6334.9	6327.2	6296.1	6241.9	6226.4
15°	6164.3	6164.3	6102.3	6040.3	6017.0
17.5°	5978.2	5970.5	5892.9	5830.9	5799.9
20°	5776.6	5761.1	5683.6	5582.8	5528.5
22.5°	5551.8	5551.8	5458.7	5326.9	5272.6
25°	5342.4	5311.4	5226.1	5040.0	4900.4
27.5°	5102.0	5055.5	4962.5	4698.8	4536.0
30°	4838.4	4815.2	4683.3	4342.2	4218.1
32.5°	4590.3	4551.5	4411.9	4055.3	3954.5
35°	4334.4	4303.4	4094.0	3783.9	3690.8
37.5°	4078.5	4039.8	3776.1	3528.0	3411.7
40°	3822.7	3776.1	3489.2	3264.4	3140.3
42.5°	3582.3	3520.3	3241.1	3000.7	2861.2
45°	3326.4	3256.6	2977.5	2729.4	2620.8
47.5°	3070.5	3008.5	2752.6	2496.7	2372.7
50°	2799.1	2744.9	2512.3	2256.4	2124.6
52.5°	2574.3	2489.0	2264.1	2008.3	1899.7
55°	2310.7	2240.9	2031.5	1791.1	1698.1
57.5°	2070.3	2000.5	1806.7	1581.8	1504.2
60°	1845.4	1744.6	1581.8	1387.9	1325.9
62.5°	1597.3	1519.8	1380.2	1217.4	1294.9
65°	1372.4	1294.9	1170.8	1194.1	992.5
67.5°	1124.3	1085.5	977.0	868.4	837.4
70°	915.0	868.4	829.7	713.4	682.3
72.5°	728.9	682.3	628.1	566.0	542.8
75°	550.5	511.8	480.7	457.5	504.0
77.5°	379.9	364.4	341.2	317.9	310.2
80°	248.1	240.4	232.6	224.9	217.1
82.5°	147.3	147.3	147.3	147.3	147.3
85°	77.5	85.3	93.0	100.8	108.6
87.5°	46.5	46.5	54.3	62.0	69.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)