

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: P590372

Luminaire Tested: FSR-24-2-LD4-2STD-40-UNV-81-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590372
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-2STD-40-UNV-81-97-EDD
Description: 2X2 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: 3578.0 lumens
Efficiency: N/A
Efficacy: 107.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

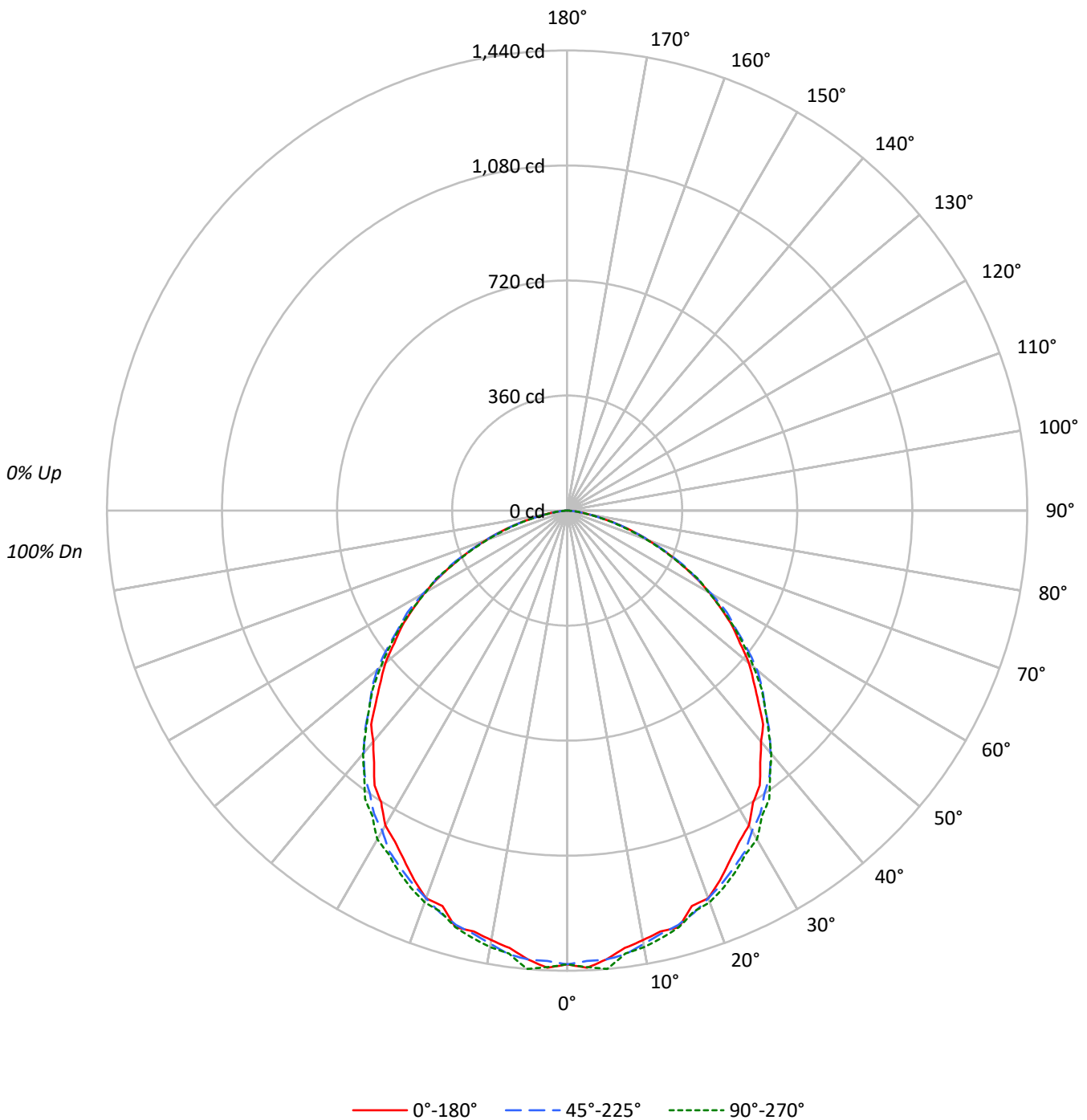
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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																												
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3820	3820	3820
5°	3808	3809	3889
10°	3730	3763	3789
15°	3760	3740	3760
20°	3696	3696	3736
25°	3583	3661	3701
30°	3534	3596	3691
35°	3450	3541	3620
40°	3316	3476	3491
45°	3216	3330	3335
50°	3110	3251	3188
55°	2964	3021	3000
60°	2771	2799	2749
65°	2471	2534	2453
70°	2120	2127	2068
75°	1679	1675	1611
80°	1125	1094	1051
85°	611	605	565

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 3416 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.5	3.7
10°-20°	378.5	10.6
20°-30°	567.0	15.8
30°-40°	672.0	18.8
40°-50°	673.3	18.8
50°-60°	571.5	16.0
60°-70°	385.3	10.8
70°-80°	169.3	4.7
80°-90°	27.5	0.8
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°	1079.0	30.2
0°-40°	1751.1	48.9
0°-60°	2995.9	83.7
0°-90°	3578.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3578.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1420	1420	1420	1420	1420	
5°	1410	1406	1410	1406	1440	133
15°	1350	1334	1342	1349	1350	376
25°	1207	1213	1233	1249	1247	558
35°	1050	1053	1078	1103	1102	652
45°	845	861	875	898	876	654
55°	632	627	644	640	639	562
65°	388	383	398	383	385	386
75°	162	158	161	150	155	173
85°	20	19	20	19	18	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1419.7	1419.7	1419.7	1419.7	1419.7
2.5°	1431.9	1421.1	1411.0	1422.8	1429.9
5°	1409.6	1406.3	1410.1	1405.9	1439.8
7.5°	1380.6	1393.3	1400.6	1396.0	1398.0
10°	1365.2	1360.8	1377.1	1388.5	1386.8
12.5°	1348.7	1355.3	1356.2	1368.5	1369.6
15°	1349.6	1334.1	1342.3	1349.3	1349.8
17.5°	1297.2	1314.1	1319.8	1335.7	1315.9
20°	1290.8	1278.5	1290.8	1307.1	1304.5
22.5°	1251.4	1237.6	1264.0	1278.5	1277.6
25°	1206.7	1213.3	1233.1	1249.2	1246.6
27.5°	1167.4	1175.1	1203.4	1225.5	1211.2
30°	1137.2	1133.3	1157.2	1177.0	1188.0
32.5°	1083.1	1097.1	1124.9	1144.5	1134.1
35°	1050.3	1053.4	1077.8	1102.7	1102.0
37.5°	992.9	1007.4	1041.7	1048.7	1042.2
40°	944.0	958.5	989.5	997.0	993.9
42.5°	907.9	910.5	937.0	945.6	931.9
45°	845.0	860.8	875.1	897.6	876.4
47.5°	791.5	798.8	829.6	835.7	824.5
50°	742.9	745.5	776.5	768.9	761.6
52.5°	681.9	692.7	710.1	708.6	700.0
55°	631.7	627.4	643.9	639.5	639.4
57.5°	571.3	578.7	592.2	585.3	574.1
60°	514.9	515.1	520.0	512.1	510.7
62.5°	452.0	454.2	455.3	445.6	461.4
65°	388.0	382.9	397.9	382.7	385.3
67.5°	329.2	331.8	330.3	320.8	324.4
70°	269.5	272.8	270.4	259.6	262.9
72.5°	214.8	210.8	213.4	199.8	206.0
75°	161.5	158.2	161.1	149.8	154.9
77.5°	110.0	112.5	110.7	104.7	108.1
80°	72.6	70.6	70.6	67.1	67.8
82.5°	42.3	40.3	39.8	38.7	40.3
85°	19.8	19.2	19.6	19.1	18.3
87.5°	7.1	7.3	7.3	7.0	6.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)