

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: P687847

Luminaire Tested: FLR-HA-22-L3C3 (MED)-40-CA08

Issue Date: 5/22/2023

Test Information

Test Method: LM-79-2019
Report Number: P687847
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2303-938-1)
Test Lab: INNOVATION CENTER
Issue Date: 5/22/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FLR-HA-22-L3C3 (MED)-40-CA08
Description: Fail-Safe - FLR Fully Luminous Recessed 2X2 4000K Luminaire at Midium Lumen setting for High Abuse
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

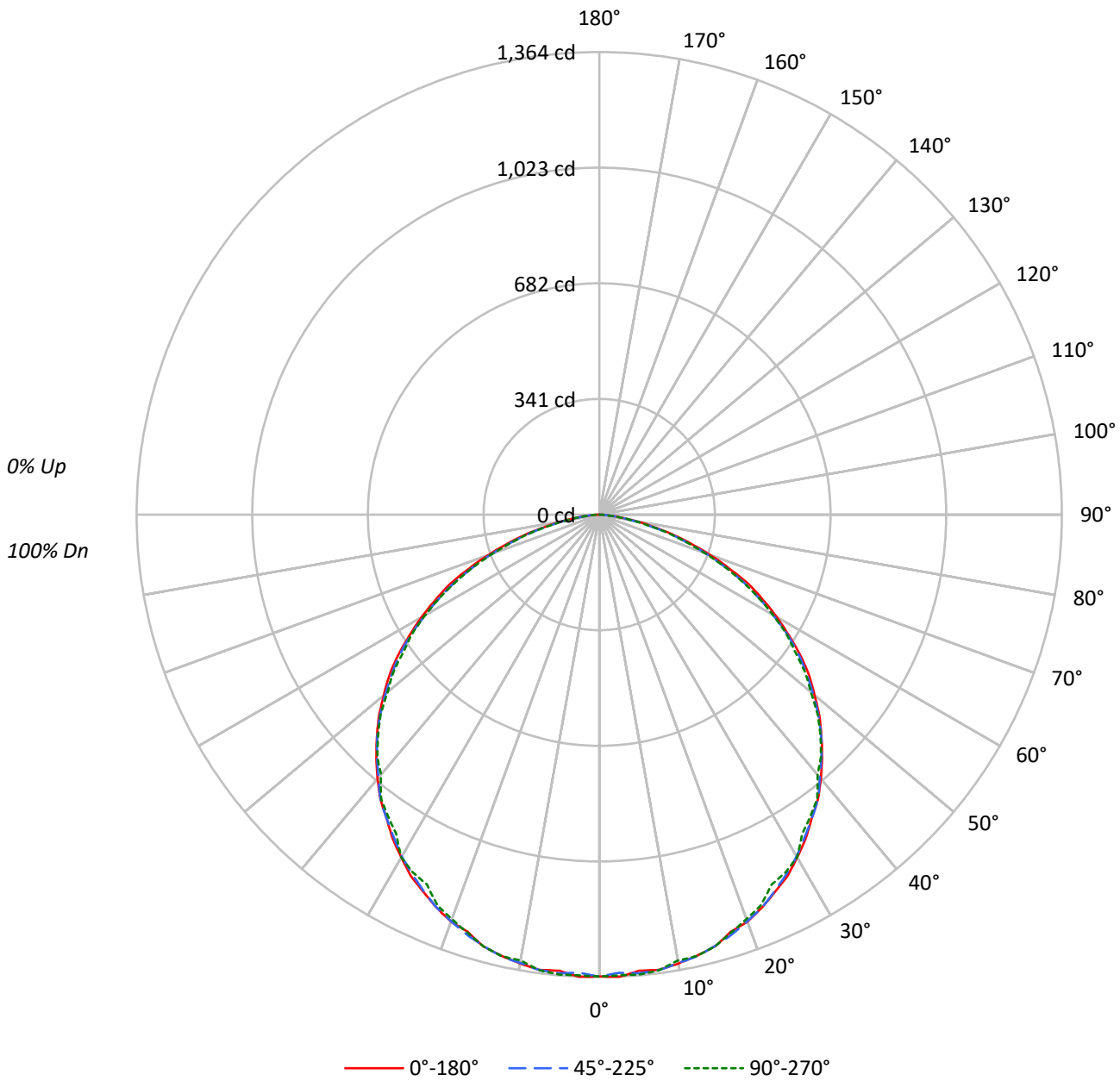
Lumens per Lamp: N/A
Luminaire Lumens: 3826.1 lumens
Efficiency: N/A
Efficacy: 132.4 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.39
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 28.9
Input Voltage (V): 120
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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	102	99	95	98	95	92	94	92	89	91	89	87	85
2	99	91	85	79	97	90	83	78	86	81	76	83	78	75	80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	70	66	62	60
4	83	71	62	56	81	70	62	55	67	60	55	65	59	54	63	58	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	57	51	46	44
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34
8	61	47	39	33	59	47	38	33	45	38	33	44	37	32	43	37	32	30
9	57	43	35	30	55	43	35	30	42	34	29	41	34	29	40	34	29	27
10	53	40	32	27	52	39	32	27	38	31	27	38	31	27	37	31	26	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3665	3665	3665
5°	3648	3666	3677
10°	3673	3669	3649
15°	3674	3670	3672
20°	3658	3655	3635
25°	3644	3636	3573
30°	3628	3617	3626
35°	3589	3592	3567
40°	3572	3555	3517
45°	3527	3522	3509
50°	3471	3445	3408
55°	3400	3368	3303
60°	3253	3182	3182
65°	3104	2977	2946
70°	2732	2624	2592
75°	2280	2166	2188
80°	1630	1534	1523
85°	849	784	827

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 22.5°
 Vertical Angle: 45°
 Luminance: 3535 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.1	3.4
10°-20°	371.1	9.7
20°-30°	564.7	14.8
30°-40°	684.2	17.9
40°-50°	712.4	18.6
50°-60°	637.9	16.7
60°-70°	463.1	12.1
70°-80°	224.8	5.9
80°-90°	38.7	1.0
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°	1064.9	27.8
0°-40°	1749.1	45.7
0°-60°	3099.4	81.0
0°-90°	3826.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3826.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1362	1362	1362	1362	1362	
5°	1350	1359	1357	1354	1361	129
15°	1319	1316	1317	1308	1318	371
25°	1227	1230	1225	1222	1203	566
35°	1093	1099	1093	1097	1086	686
45°	927	929	926	921	922	715
55°	725	719	718	710	704	645
65°	488	474	468	466	463	475
75°	219	214	208	209	210	233
85°	28	28	25	25	27	41
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1362.1	1362.1	1362.1	1362.1	1362.1
2.5°	1364.2	1363.5	1352.5	1357.3	1360.0
5°	1350.4	1358.7	1357.3	1354.5	1361.4
7.5°	1353.9	1350.4	1354.5	1353.9	1355.2
10°	1344.2	1340.8	1342.8	1343.5	1335.3
12.5°	1332.5	1330.5	1333.9	1336.7	1333.2
15°	1318.8	1316.0	1317.4	1307.8	1318.1
17.5°	1289.9	1296.8	1298.8	1293.3	1292.7
20°	1277.5	1275.5	1276.2	1274.1	1269.3
22.5°	1254.2	1262.4	1254.2	1250.0	1246.6
25°	1227.3	1230.1	1224.6	1222.5	1203.3
27.5°	1201.9	1201.2	1195.0	1195.0	1189.5
30°	1167.5	1162.7	1164.1	1158.6	1166.8
32.5°	1133.1	1133.8	1127.6	1129.7	1114.6
35°	1092.6	1098.8	1093.3	1096.7	1085.7
37.5°	1059.6	1055.4	1059.6	1054.1	1056.1
40°	1016.9	1015.6	1012.1	1013.5	1001.1
42.5°	972.9	970.9	970.2	967.4	968.1
45°	926.9	928.9	925.5	920.7	922.0
47.5°	880.8	882.9	876.7	870.5	874.6
50°	829.2	830.6	823.0	821.0	814.1
52.5°	780.4	774.2	770.1	766.7	766.0
55°	724.7	719.2	717.8	709.6	704.1
57.5°	662.8	661.5	657.3	651.1	653.9
60°	604.4	598.9	591.3	589.9	591.3
62.5°	544.6	538.4	528.8	531.5	528.8
65°	487.5	474.4	467.6	466.2	462.7
67.5°	414.6	405.0	399.5	397.4	398.8
70°	347.2	346.5	333.5	331.4	329.4
72.5°	281.9	276.4	268.8	268.2	267.5
75°	219.3	214.5	208.3	209.0	210.4
77.5°	158.1	153.3	147.8	149.9	147.1
80°	105.2	103.8	99.0	98.3	98.3
82.5°	62.6	59.8	57.1	57.1	57.8
85°	27.5	28.2	25.4	25.4	26.8
87.5°	6.9	7.6	6.9	6.9	6.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)