

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311170

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CA08-W2A-U-5000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P311170
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-30HE-UNV-L82765-S-CA08-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 5000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3037.0 lumens
Efficiency: N/A
Efficacy: 140.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

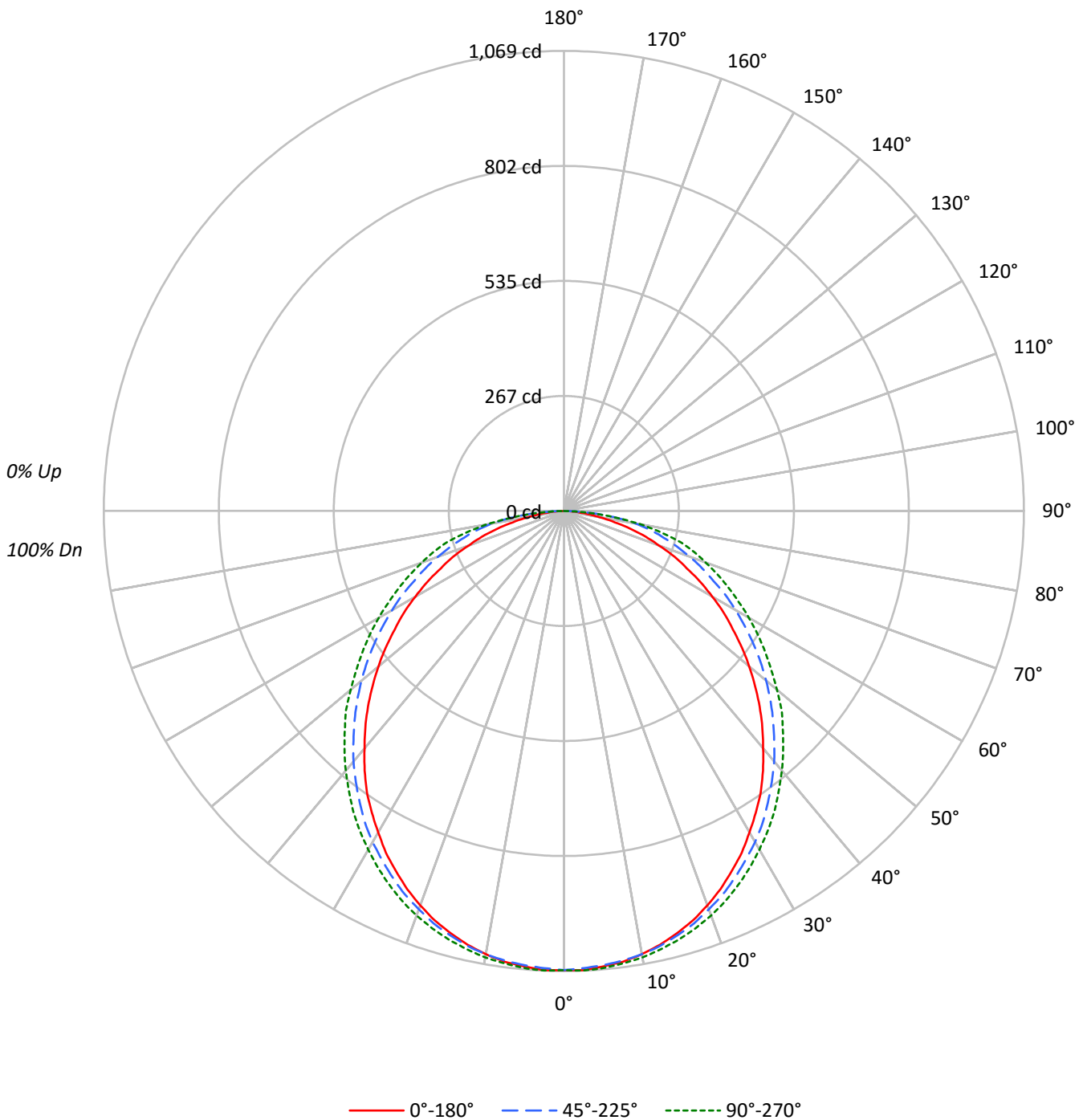
Input Watts (W): 21.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-30HE-UNV-L82765-S-CA08-W2A-U-5000K

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	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1436	1436	1436
5°	1435	1431	1440
10°	1429	1429	1439
15°	1415	1422	1436
20°	1396	1410	1432
25°	1371	1396	1424
30°	1340	1380	1412
35°	1310	1358	1401
40°	1266	1335	1384
45°	1224	1309	1369
50°	1177	1284	1353
55°	1125	1260	1340
60°	1072	1241	1337
65°	1004	1219	1345
70°	930	1226	1381
75°	832	1249	1459
80°	673	1323	1428
85°	506	1161	1132



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.0	3.3
10°-20°	288.6	9.5
20°-30°	433.8	14.3
30°-40°	516.8	17.0
40°-50°	528.9	17.4
50°-60°	476.2	15.7
60°-70°	373.9	12.3
70°-80°	242.7	8.0
80°-90°	75.1	2.5
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°	823.5	27.1
0°-40°	1340.2	44.1
0°-60°	2345.3	77.2
0°-90°	3037.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3037.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1067	1067	1067	1067	1067	
5°	1062	1064	1059	1065	1066	101
15°	1016	1019	1021	1029	1031	286
25°	923	931	940	956	959	425
35°	798	807	827	847	853	498
45°	643	659	688	714	720	496
55°	479	501	537	565	571	430
65°	315	340	383	415	422	314
75°	160	191	240	273	281	169
85°	33	61	75	73	73	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1066.9	1066.9	1066.9	1066.9	1066.9
2.5°	1067.9	1067.9	1063.1	1067.9	1068.8
5°	1062.1	1064.0	1059.2	1065.0	1066.0
7.5°	1056.3	1056.3	1053.4	1059.2	1060.2
10°	1045.7	1046.7	1045.7	1052.4	1053.4
12.5°	1032.2	1034.1	1035.1	1041.8	1042.8
15°	1015.8	1018.7	1020.6	1029.3	1031.2
17.5°	997.5	1000.4	1005.2	1014.8	1016.8
20°	975.3	979.1	984.9	997.5	1000.4
22.5°	951.2	955.0	964.7	976.2	981.1
25°	923.2	930.9	940.5	956.0	958.9
27.5°	895.2	902.0	914.5	930.9	934.8
30°	862.4	873.0	888.5	904.9	908.7
32.5°	830.6	841.2	859.5	876.9	881.7
35°	797.8	807.4	826.7	847.0	852.8
37.5°	760.2	772.7	793.9	814.2	820.0
40°	720.6	736.0	760.2	781.4	788.1
42.5°	683.0	699.4	723.5	746.6	754.4
45°	643.4	658.9	687.8	713.9	719.6
47.5°	602.9	620.3	651.1	677.2	686.8
50°	562.4	580.7	613.5	640.5	646.3
52.5°	521.9	541.2	575.9	604.8	607.7
55°	479.4	500.7	537.3	565.3	571.1
57.5°	440.9	459.2	498.7	527.7	534.4
60°	398.4	418.7	461.1	488.1	496.8
62.5°	357.9	379.1	423.5	450.5	458.2
65°	315.4	339.6	383.0	414.8	422.5
67.5°	278.8	301.9	348.2	379.1	386.8
70°	236.3	262.4	311.6	343.4	351.1
72.5°	199.7	226.7	275.9	306.8	318.3
75°	160.1	191.0	240.2	273.0	280.7
77.5°	121.5	157.2	207.4	232.5	232.5
80°	86.8	124.4	170.7	182.3	184.3
82.5°	56.9	93.6	126.4	125.4	125.4
85°	32.8	60.8	75.2	73.3	73.3
87.5°	12.5	25.1	27.0	27.0	26.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)