

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: P314182

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-S-CP187-W2A-U-4000K**

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: P314182  
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-L83050-S-CP187-W2A-U-4000K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET  
Light Source: (336) 4000K 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**

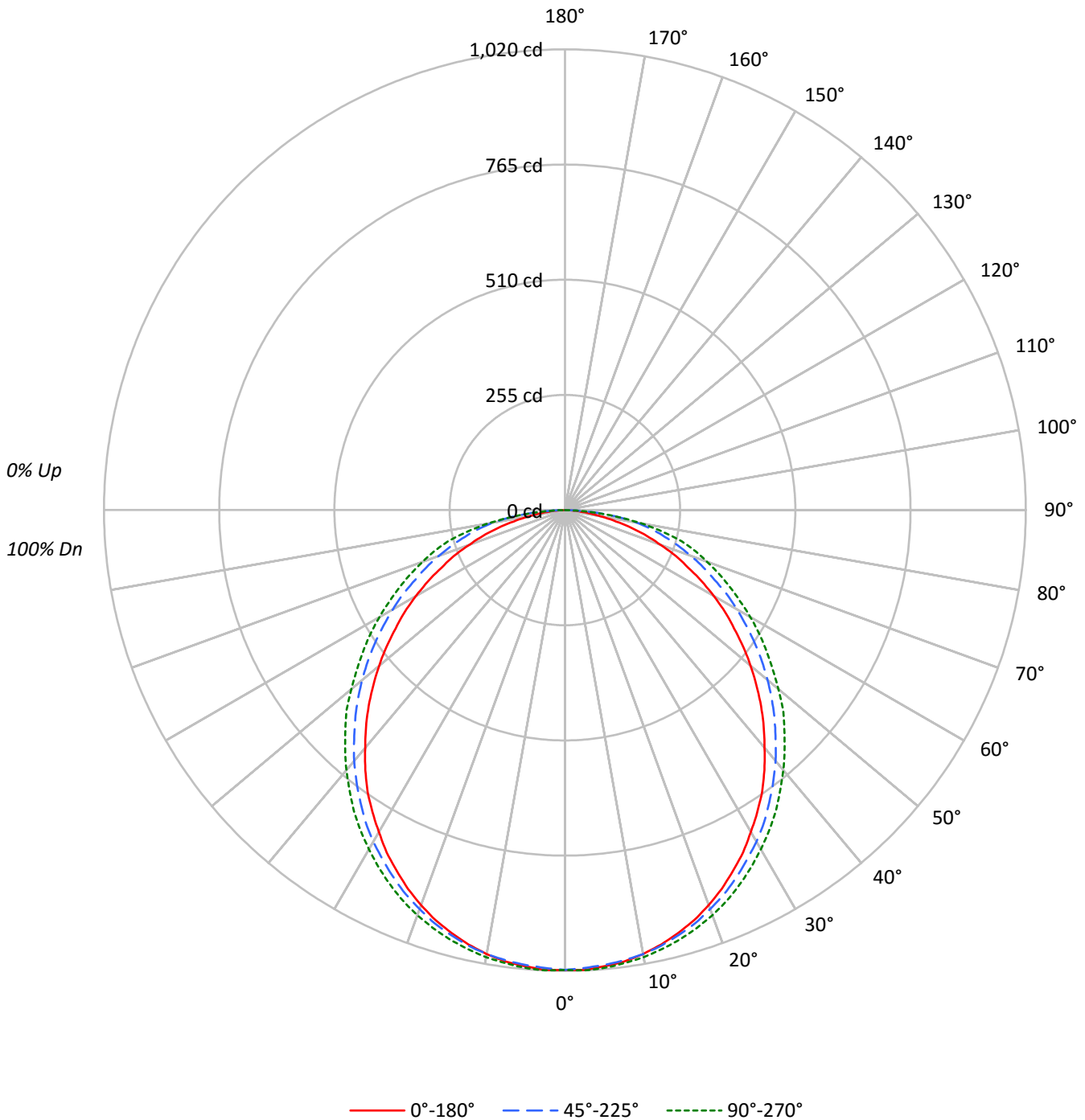
Lumens per Lamp: N/A  
Luminaire Lumens: 2898.0 lumens  
Efficiency: N/A  
Efficacy: 134.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 21.6  
Input Voltage (V): NR  
Input Current (Ain): NR  
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: 25 FT



TEST NUMBER: P314182

CATALOG NUMBER: 24FCZ2-30HE-UNV-L83050-S-CP187-W2A-U-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P314182

CATALOG NUMBER: 24FC22-30HE-UNV-L83050-S-CP187-W2A-U-4000K

**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°	1370	1370	1370
5°	1369	1365	1374
10°	1363	1363	1373
15°	1350	1357	1371
20°	1332	1346	1367
25°	1308	1332	1358
30°	1278	1317	1347
35°	1250	1296	1337
40°	1208	1274	1321
45°	1168	1249	1307
50°	1123	1225	1291
55°	1073	1203	1278
60°	1023	1184	1276
65°	958	1163	1284
70°	887	1170	1318
75°	794	1192	1393
80°	642	1262	1362
85°	483	1108	1081



TEST NUMBER: P314182

CATALOG NUMBER: 24FCZ2-30HE-UNV-L83050-S-CP187-W2A-U-4000K

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	96.4	3.3
10°-20°	275.4	9.5
20°-30°	414.0	14.3
30°-40°	493.1	17.0
40°-50°	504.7	17.4
50°-60°	454.4	15.7
60°-70°	356.8	12.3
70°-80°	231.6	8.0
80°-90°	71.6	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°	785.8	27.1
0°-40°	1278.9	44.1
0°-60°	2238.0	77.2
0°-90°	2898.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2898.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1018	1018	1018	1018	1018	
5°	1014	1015	1011	1016	1017	96
15°	969	972	974	982	984	273
25°	881	888	898	912	915	406
35°	761	770	789	808	814	475
45°	614	629	656	681	687	473
55°	458	478	513	539	545	410
65°	301	324	365	396	403	300
75°	153	182	229	260	268	162
85°	31	58	72	70	70	38
90°	0	0	0	0	0	



TEST NUMBER: P314182

CATALOG NUMBER: 24FCZ2-30HE-UNV-L83050-S-CP187-W2A-U-4000K

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1018.1	1018.1	1018.1	1018.1	1018.1
2.5°	1019.0	1019.0	1014.4	1019.0	1019.9
5°	1013.5	1015.3	1010.7	1016.2	1017.2
7.5°	1008.0	1008.0	1005.2	1010.7	1011.6
10°	997.8	998.8	997.8	1004.3	1005.2
12.5°	984.9	986.8	987.7	994.2	995.1
15°	969.3	972.1	973.9	982.2	984.0
17.5°	951.8	954.6	959.2	968.4	970.2
20°	930.6	934.3	939.8	951.8	954.6
22.5°	907.6	911.3	920.5	931.6	936.2
25°	880.9	888.3	897.5	912.2	915.0
27.5°	854.2	860.7	872.6	888.3	892.0
30°	822.9	833.1	847.8	863.4	867.1
32.5°	792.6	802.7	820.2	836.7	841.3
35°	761.3	770.5	788.9	808.2	813.7
37.5°	725.4	737.3	757.6	776.9	782.4
40°	687.6	702.4	725.4	745.6	752.1
42.5°	651.7	667.4	690.4	712.5	719.8
45°	614.0	628.7	656.3	681.2	686.7
47.5°	575.3	591.9	621.3	646.2	655.4
50°	536.7	554.1	585.4	611.2	616.7
52.5°	498.0	516.4	549.5	577.2	579.9
55°	457.5	477.7	512.7	539.4	544.9
57.5°	420.7	438.2	475.9	503.5	510.0
60°	380.2	399.5	440.0	465.8	474.1
62.5°	341.5	361.8	404.1	429.9	437.2
65°	301.0	324.0	365.4	395.8	403.2
67.5°	266.0	288.1	332.3	361.8	369.1
70°	225.5	250.4	297.3	327.7	335.1
72.5°	190.5	216.3	263.3	292.7	303.8
75°	152.8	182.3	229.2	260.5	267.9
77.5°	116.0	150.0	197.9	221.8	221.8
80°	82.8	118.7	162.9	174.0	175.8
82.5°	54.3	89.3	120.6	119.7	119.7
85°	31.3	58.0	71.8	70.0	70.0
87.5°	12.0	23.9	25.8	25.8	24.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)