

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: P311169

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CA08-W2A-U-4500K**

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: P311169
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-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 4500K 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: 2996.0 lumens
Efficiency: N/A
Efficacy: 139.3 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

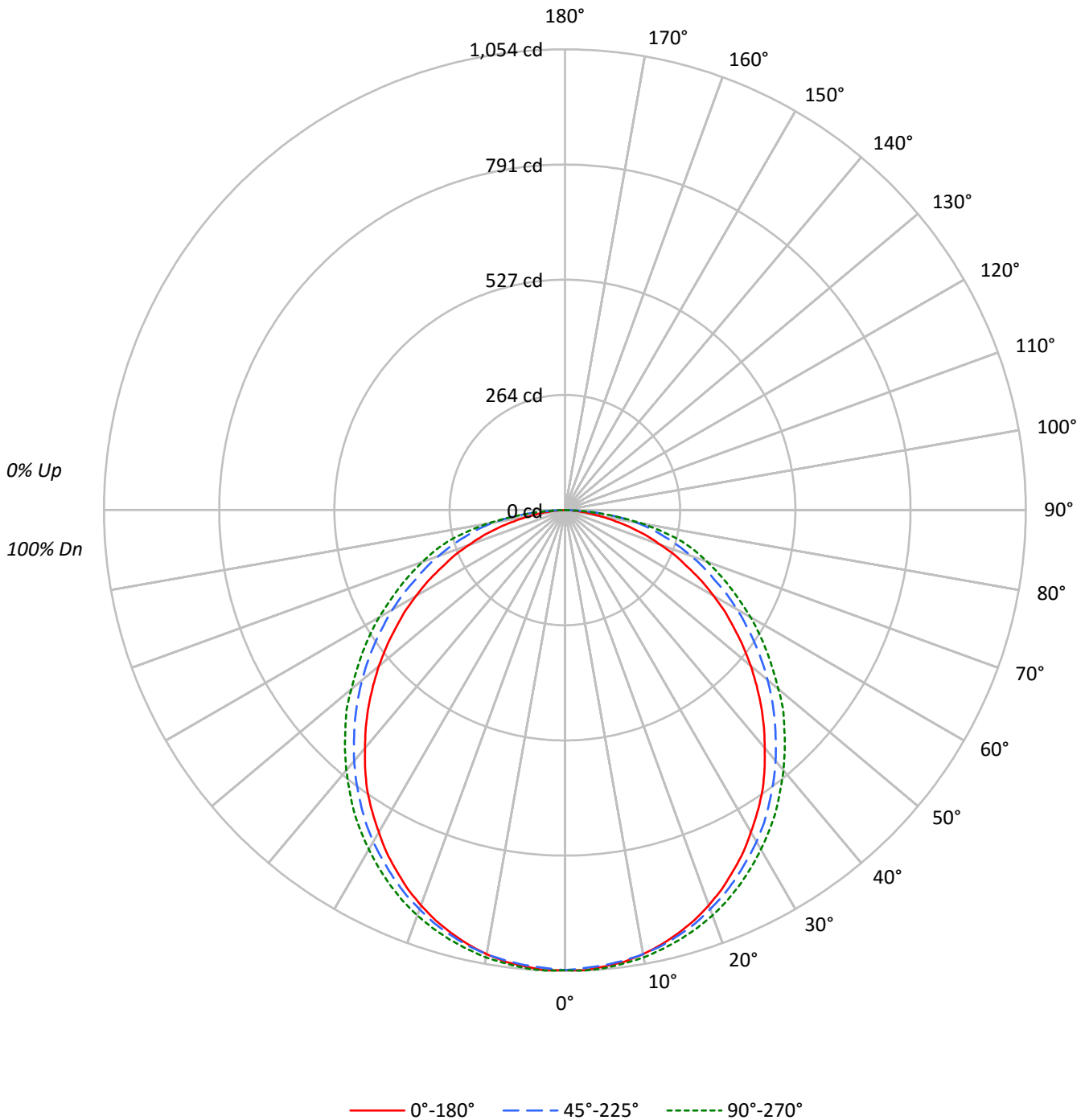
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-30HE-UNV-L82765-S-CA08-W2A-U-4500K

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°	1416	1416	1416
5°	1415	1411	1420
10°	1409	1409	1420
15°	1396	1402	1417
20°	1378	1391	1413
25°	1352	1377	1404
30°	1322	1362	1393
35°	1293	1340	1382
40°	1249	1317	1366
45°	1208	1291	1351
50°	1161	1267	1335
55°	1110	1244	1322
60°	1058	1224	1319
65°	991	1203	1327
70°	917	1209	1363
75°	821	1232	1439
80°	663	1305	1409
85°	500	1145	1116



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.6	3.3
10°-20°	284.7	9.5
20°-30°	428.0	14.3
30°-40°	509.8	17.0
40°-50°	521.8	17.4
50°-60°	469.7	15.7
60°-70°	368.9	12.3
70°-80°	239.4	8.0
80°-90°	74.0	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°	812.3	27.1
0°-40°	1322.1	44.1
0°-60°	2313.6	77.2
0°-90°	2996.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2996.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1052	1052	1052	1052	1052	
5°	1048	1050	1045	1051	1052	100
15°	1002	1005	1007	1015	1017	283
25°	911	918	928	943	946	420
35°	787	796	816	836	841	491
45°	635	650	678	704	710	489
55°	473	494	530	558	563	424
65°	311	335	378	409	417	310
75°	158	188	237	269	277	167
85°	32	60	74	72	72	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1052.5	1052.5	1052.5	1052.5	1052.5
2.5°	1053.5	1053.5	1048.7	1053.5	1054.4
5°	1047.8	1049.7	1044.9	1050.6	1051.6
7.5°	1042.0	1042.0	1039.2	1044.9	1045.9
10°	1031.6	1032.5	1031.6	1038.2	1039.2
12.5°	1018.3	1020.2	1021.1	1027.8	1028.7
15°	1002.1	1004.9	1006.8	1015.4	1017.3
17.5°	984.0	986.9	991.6	1001.1	1003.0
20°	962.1	965.9	971.6	984.0	986.9
22.5°	938.3	942.1	951.6	963.1	967.8
25°	910.7	918.3	927.8	943.1	945.9
27.5°	883.1	889.8	902.2	918.3	922.1
30°	850.8	861.2	876.5	892.6	896.4
32.5°	819.4	829.8	847.9	865.0	869.8
35°	787.0	796.5	815.6	835.5	841.3
37.5°	749.9	762.3	783.2	803.2	808.9
40°	710.9	726.1	749.9	770.8	777.5
42.5°	673.8	689.9	713.7	736.6	744.2
45°	634.7	650.0	678.5	704.2	709.9
47.5°	594.8	611.9	642.4	668.1	677.6
50°	554.8	572.9	605.2	631.9	637.6
52.5°	514.8	533.9	568.1	596.7	599.5
55°	473.0	493.9	530.1	557.7	563.4
57.5°	434.9	453.0	492.0	520.5	527.2
60°	393.0	413.0	454.9	481.5	490.1
62.5°	353.1	374.0	417.8	444.4	452.0
65°	311.2	335.0	377.8	409.2	416.8
67.5°	275.0	297.9	343.5	374.0	381.6
70°	233.2	258.8	307.4	338.8	346.4
72.5°	197.0	223.6	272.2	302.6	314.0
75°	158.0	188.4	237.0	269.3	276.9
77.5°	119.9	155.1	204.6	229.3	229.3
80°	85.6	122.8	168.4	179.9	181.8
82.5°	56.1	92.3	124.7	123.7	123.7
85°	32.4	60.0	74.2	72.3	72.3
87.5°	12.4	24.7	26.6	26.6	25.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)