

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: P313793

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-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: P313793
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
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-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED 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: 2975.0 lumens
Efficiency: N/A
Efficacy: 134.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

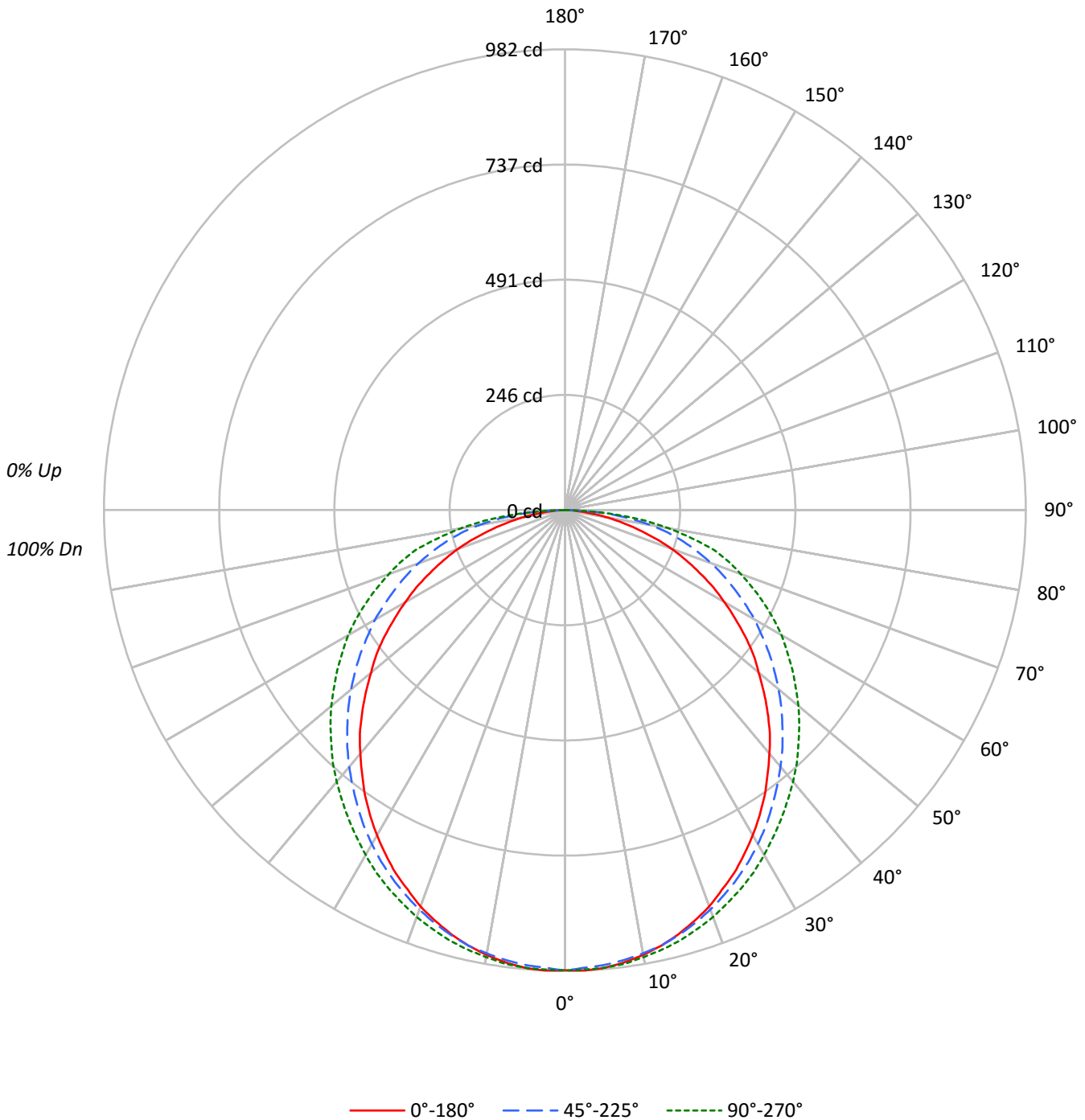
Input Watts (W): 22.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1320	1320	1320
5°	1323	1314	1323
10°	1315	1311	1322
15°	1303	1306	1323
20°	1288	1297	1321
25°	1268	1288	1320
30°	1244	1277	1319
35°	1219	1265	1320
40°	1191	1255	1328
45°	1163	1247	1339
50°	1128	1244	1360
55°	1100	1246	1387
60°	1057	1256	1434
65°	1009	1270	1486
70°	955	1308	1569
75°	852	1365	1714
80°	727	1446	1751
85°	519	1433	1677



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.9	3.1
10°-20°	265.5	8.9
20°-30°	401.0	13.5
30°-40°	483.3	16.2
40°-50°	507.4	17.1
50°-60°	474.7	16.0
60°-70°	392.0	13.2
70°-80°	267.1	9.0
80°-90°	91.1	3.1
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°	759.4	25.5
0°-40°	1242.7	41.8
0°-60°	2224.8	74.8
0°-90°	2975.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2975.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	981	981	981	981	981	
5°	979	978	973	979	979	93
15°	936	937	938	948	950	264
25°	854	858	868	884	889	393
35°	742	750	770	796	804	464
45°	611	624	655	691	704	471
55°	469	488	531	574	591	418
65°	317	344	399	449	467	314
75°	164	201	263	312	330	175
85°	34	66	93	105	109	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	981.1	981.1	981.1	981.1	981.1
2.5°	982.1	981.1	976.2	981.1	980.1
5°	979.2	978.2	973.2	979.2	979.2
7.5°	972.2	972.2	967.3	974.2	975.2
10°	962.4	962.4	959.4	967.3	967.3
12.5°	950.5	950.5	950.5	958.4	959.4
15°	935.7	936.7	937.7	947.6	949.5
17.5°	918.0	919.9	922.9	934.7	936.7
20°	899.2	901.2	906.1	919.9	922.9
22.5°	875.5	880.4	887.4	903.2	906.1
25°	853.8	857.7	867.6	884.4	889.3
27.5°	827.1	833.1	845.9	863.7	870.6
30°	800.5	806.4	822.2	842.9	848.9
32.5°	771.9	780.8	797.5	819.3	826.2
35°	742.3	750.2	769.9	795.6	803.5
37.5°	709.7	720.5	742.3	769.9	779.8
40°	678.1	689.9	714.6	744.2	756.1
42.5°	646.5	658.4	686.0	719.6	731.4
45°	611.0	623.8	655.4	690.9	703.8
47.5°	575.5	591.2	625.8	663.3	677.1
50°	538.9	556.7	594.2	633.7	649.5
52.5°	506.4	523.1	562.6	605.1	619.9
55°	468.8	487.6	531.0	574.5	591.2
57.5°	430.4	451.1	497.5	544.9	561.6
60°	392.8	415.5	466.9	514.3	533.0
62.5°	356.3	379.0	432.3	481.7	500.4
65°	316.8	343.5	398.8	449.1	466.9
67.5°	279.3	308.0	366.2	415.5	433.3
70°	242.8	270.5	332.6	381.0	398.8
72.5°	203.3	234.9	297.1	347.4	366.2
75°	163.9	201.4	262.6	311.9	329.7
77.5°	127.3	165.8	227.0	267.5	276.4
80°	93.8	133.3	186.6	215.2	226.0
82.5°	60.2	99.7	142.1	162.9	171.7
85°	33.6	66.1	92.8	104.6	108.6
87.5°	13.8	28.6	37.5	42.4	42.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)