

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: P310494

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-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: P310494
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-L82765-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: 2852.0 lumens
Efficiency: N/A
Efficacy: 132.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

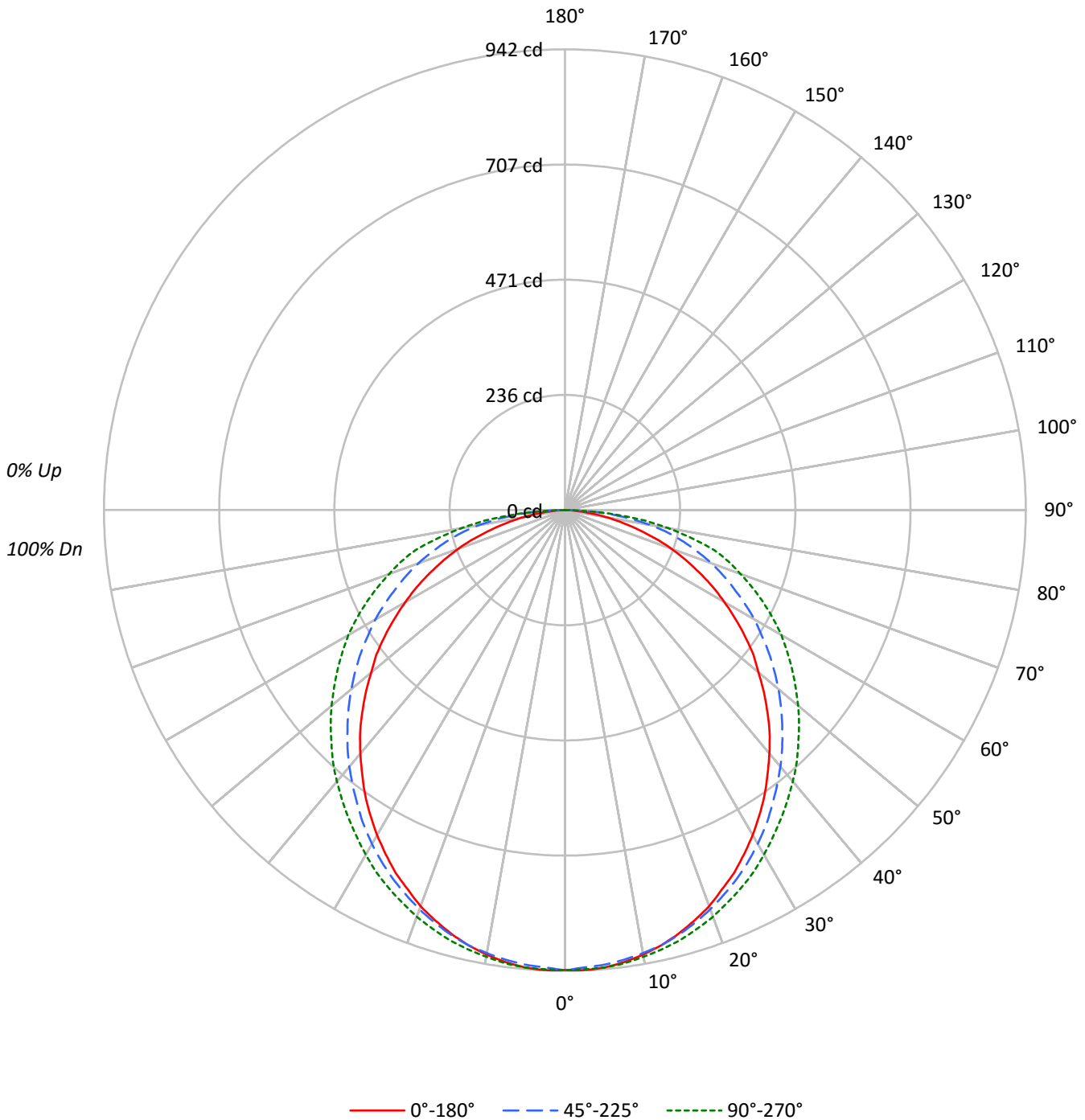
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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°	1266	1266	1266
5°	1268	1260	1268
10°	1260	1257	1267
15°	1249	1252	1268
20°	1234	1244	1267
25°	1215	1235	1266
30°	1192	1225	1264
35°	1169	1212	1265
40°	1142	1203	1273
45°	1114	1196	1284
50°	1081	1192	1303
55°	1054	1194	1330
60°	1013	1204	1375
65°	967	1217	1425
70°	916	1255	1504
75°	817	1308	1643
80°	697	1385	1679
85°	497	1372	1607



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	89.0	3.1
10°-20°	254.5	8.9
20°-30°	384.4	13.5
30°-40°	463.3	16.2
40°-50°	486.4	17.1
50°-60°	455.1	16.0
60°-70°	375.8	13.2
70°-80°	256.1	9.0
80°-90°	87.3	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°	728.0	25.5
0°-40°	1191.3	41.8
0°-60°	2132.8	74.8
0°-90°	2852.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2852.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	941	941	941	941	941	
5°	939	938	933	939	939	89
15°	897	898	899	908	910	253
25°	818	822	832	848	853	377
35°	712	719	738	763	770	445
45°	586	598	628	662	675	452
55°	450	467	509	551	567	401
65°	304	329	382	430	448	301
75°	157	193	252	299	316	168
85°	32	63	89	100	104	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	940.6	940.6	940.6	940.6	940.6
2.5°	941.5	940.6	935.8	940.6	939.6
5°	938.7	937.7	933.0	938.7	938.7
7.5°	932.0	932.0	927.3	933.9	934.9
10°	922.6	922.6	919.7	927.3	927.3
12.5°	911.2	911.2	911.2	918.8	919.7
15°	897.0	898.0	898.9	908.4	910.3
17.5°	880.0	881.9	884.7	896.1	898.0
20°	862.0	863.9	868.7	881.9	884.7
22.5°	839.3	844.0	850.7	865.8	868.7
25°	818.5	822.3	831.7	847.8	852.6
27.5°	793.0	798.6	810.9	828.0	834.6
30°	767.4	773.1	788.2	808.1	813.8
32.5°	740.0	748.5	764.6	785.4	792.0
35°	711.6	719.1	738.1	762.7	770.2
37.5°	680.3	690.8	711.6	738.1	747.5
40°	650.1	661.4	685.1	713.5	724.8
42.5°	619.8	631.1	657.6	689.8	701.2
45°	585.7	598.0	628.3	662.4	674.7
47.5°	551.7	566.8	599.9	635.9	649.1
50°	516.6	533.7	569.6	607.5	622.6
52.5°	485.4	501.5	539.4	580.0	594.2
55°	449.5	467.4	509.1	550.7	566.8
57.5°	412.6	432.4	476.9	522.3	538.4
60°	376.6	398.4	447.6	493.0	511.0
62.5°	341.6	363.4	414.5	461.8	479.7
65°	303.7	329.3	382.3	430.5	447.6
67.5°	267.8	295.2	351.1	398.4	415.4
70°	232.8	259.3	318.9	365.2	382.3
72.5°	194.9	225.2	284.8	333.1	351.1
75°	157.1	193.0	251.7	299.0	316.0
77.5°	122.1	159.0	217.6	256.4	264.9
80°	89.9	127.7	178.8	206.3	216.7
82.5°	57.7	95.6	136.3	156.1	164.6
85°	32.2	63.4	88.9	100.3	104.1
87.5°	13.2	27.4	36.0	40.7	40.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)