

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: P313812

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-CP250-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: P313812
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-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.250" 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: 2735.0 lumens
Efficiency: N/A
Efficacy: 126.6 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

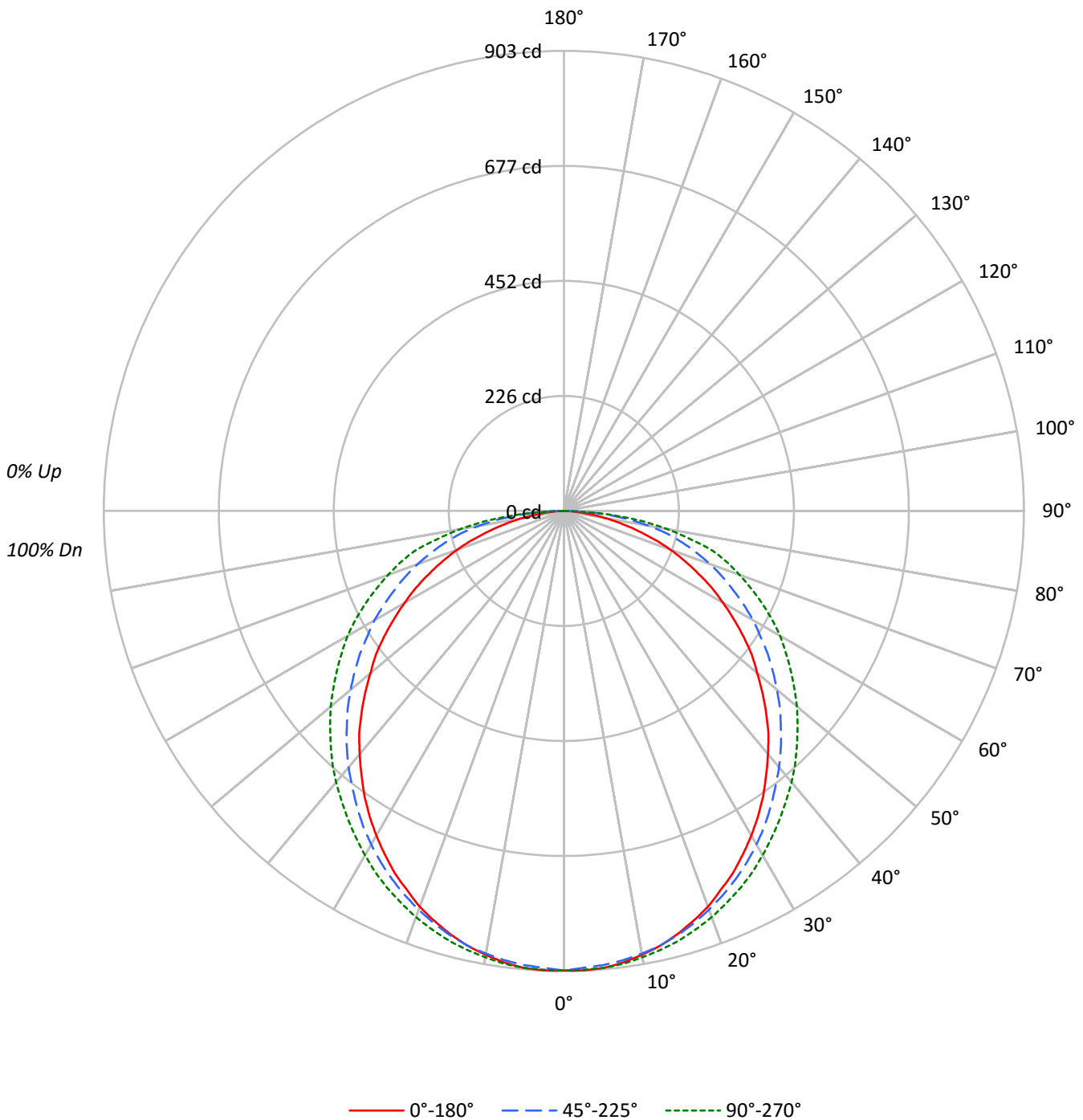
Input Watts (W): 21.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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°	1214	1214	1214
5°	1216	1208	1216
10°	1209	1205	1215
15°	1198	1201	1216
20°	1184	1193	1215
25°	1165	1184	1214
30°	1143	1174	1212
35°	1121	1163	1213
40°	1095	1154	1221
45°	1069	1146	1231
50°	1037	1144	1250
55°	1011	1145	1275
60°	972	1155	1319
65°	927	1167	1366
70°	878	1203	1442
75°	783	1255	1576
80°	668	1329	1610
85°	477	1317	1541



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	85.4	3.1
10°-20°	244.1	8.9
20°-30°	368.7	13.5
30°-40°	444.3	16.2
40°-50°	466.5	17.1
50°-60°	436.4	16.0
60°-70°	360.4	13.2
70°-80°	245.6	9.0
80°-90°	83.8	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°	698.1	25.5
0°-40°	1142.4	41.8
0°-60°	2045.3	74.8
0°-90°	2735.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2735.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	902	902	902	902	902	
5°	900	899	895	900	900	85
15°	860	861	862	871	873	242
25°	785	789	798	813	818	361
35°	682	690	708	731	739	426
45°	562	574	602	635	647	433
55°	431	448	488	528	544	385
65°	291	316	367	413	429	289
75°	151	185	241	287	303	161
85°	31	61	85	96	100	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	902.0	902.0	902.0	902.0	902.0
2.5°	902.9	902.0	897.4	902.0	901.1
5°	900.2	899.3	894.7	900.2	900.2
7.5°	893.8	893.8	889.3	895.6	896.5
10°	884.7	884.7	882.0	889.3	889.3
12.5°	873.8	873.8	873.8	881.1	882.0
15°	860.2	861.1	862.1	871.1	872.9
17.5°	843.9	845.7	848.4	859.3	861.1
20°	826.7	828.5	833.0	845.7	848.4
22.5°	804.9	809.4	815.8	830.3	833.0
25°	784.9	788.6	797.6	813.1	817.6
27.5°	760.4	765.9	777.7	794.0	800.3
30°	735.9	741.4	755.9	774.9	780.4
32.5°	709.6	717.8	733.2	753.2	759.5
35°	682.4	689.6	707.8	731.4	738.6
37.5°	652.4	662.4	682.4	707.8	716.9
40°	623.4	634.3	657.0	684.2	695.1
42.5°	594.4	605.3	630.7	661.5	672.4
45°	561.7	573.5	602.5	635.2	647.0
47.5°	529.0	543.5	575.3	609.8	622.5
50°	495.5	511.8	546.3	582.6	597.1
52.5°	465.5	480.9	517.2	556.3	569.9
55°	431.0	448.3	488.2	528.1	543.5
57.5°	395.6	414.7	457.3	500.9	516.3
60°	361.2	382.0	429.2	472.8	490.0
62.5°	327.6	348.5	397.5	442.8	460.1
65°	291.3	315.8	366.6	412.9	429.2
67.5°	256.8	283.1	336.7	382.0	398.4
70°	223.2	248.6	305.8	350.3	366.6
72.5°	186.9	216.0	273.1	319.4	336.7
75°	150.6	185.1	241.4	286.7	303.1
77.5°	117.1	152.4	208.7	245.9	254.1
80°	86.2	122.5	171.5	197.8	207.8
82.5°	55.4	91.6	130.7	149.7	157.9
85°	30.9	60.8	85.3	96.2	99.8
87.5°	12.7	26.3	34.5	39.0	39.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)