

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: P313043

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-HRP-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: P313043
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
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-HRP-CA08-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 2311.0 lumens
Efficiency: N/A
Efficacy: 104.6 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

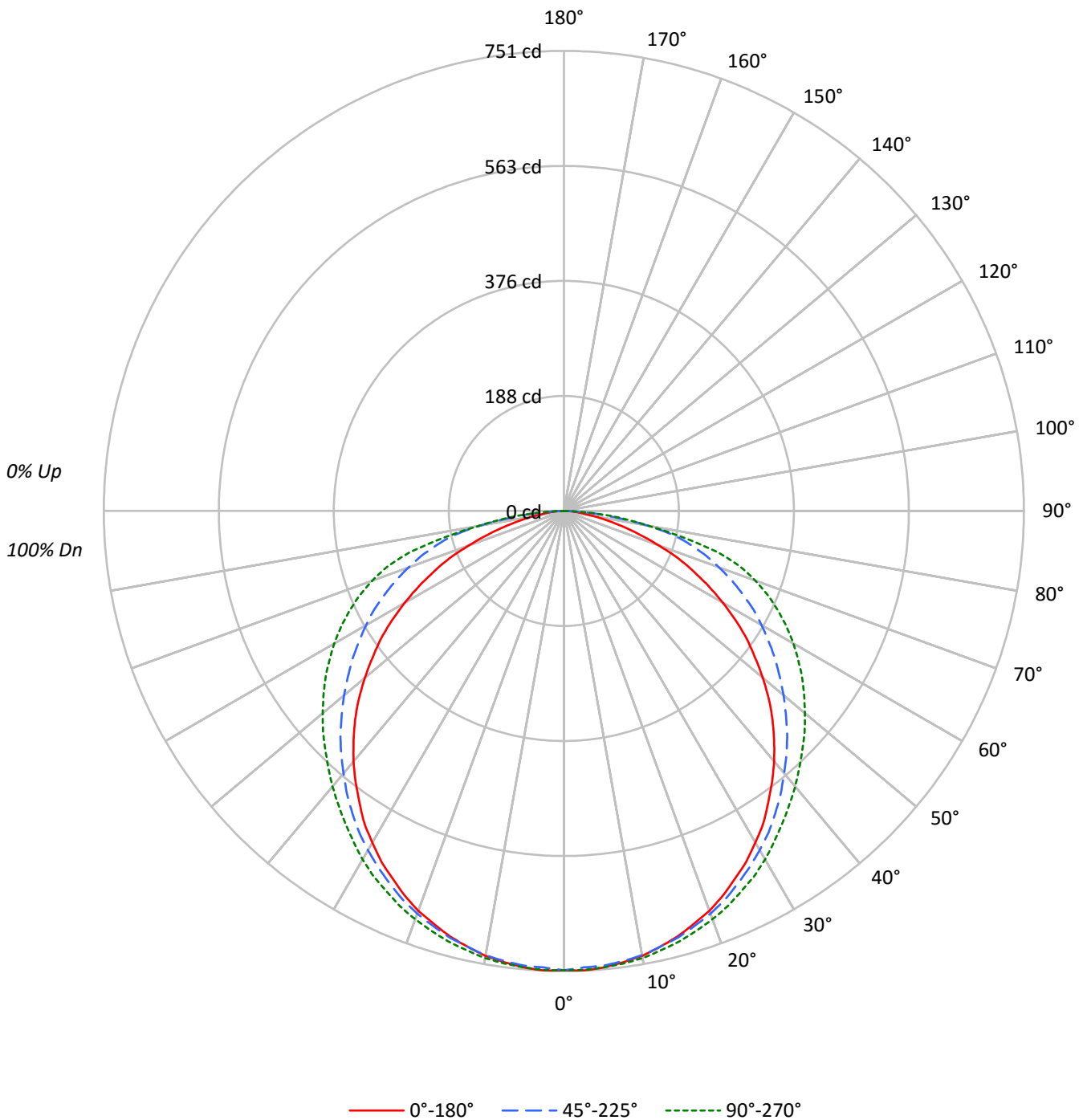
Input Watts (W): 22.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1009	1009	1009
5°	1010	1006	1010
10°	1007	1006	1013
15°	1001	1004	1014
20°	995	1002	1015
25°	982	997	1017
30°	971	994	1021
35°	955	988	1022
40°	938	982	1032
45°	917	981	1047
50°	887	980	1075
55°	856	987	1114
60°	807	1002	1164
65°	745	1026	1229
70°	651	1062	1309
75°	528	1117	1353
80°	390	1095	1095
85°	298	806	911



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	71.0	3.1
10°-20°	204.0	8.8
20°-30°	310.5	13.4
30°-40°	377.0	16.3
40°-50°	398.4	17.2
50°-60°	375.9	16.3
60°-70°	312.5	13.5
70°-80°	205.6	8.9
80°-90°	56.0	2.4
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°	585.5	25.3
0°-40°	962.6	41.7
0°-60°	1736.8	75.2
0°-90°	2311.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2311.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	750	750	750	750	750	
5°	748	748	745	748	748	71
15°	719	720	721	728	728	203
25°	662	666	671	683	685	305
35°	582	588	602	617	622	364
45°	482	492	516	541	550	371
55°	365	380	421	460	475	325
65°	234	261	322	370	386	231
75°	102	148	215	254	260	109
85°	19	43	52	58	59	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	749.8	749.8	749.8	749.8	749.8
2.5°	750.8	749.8	745.9	749.8	749.8
5°	747.9	747.9	745.0	747.9	747.9
7.5°	743.0	743.0	741.1	745.0	745.0
10°	737.2	737.2	736.3	741.1	741.1
12.5°	728.5	729.5	728.5	734.3	734.3
15°	718.8	719.8	720.8	727.6	727.6
17.5°	706.3	708.2	710.1	717.9	718.8
20°	694.7	695.6	699.5	708.2	709.2
22.5°	679.2	682.1	686.9	695.6	698.5
25°	661.8	665.6	671.4	683.0	685.0
27.5°	645.3	648.2	656.0	668.5	672.4
30°	625.0	629.8	639.5	652.1	656.9
32.5°	605.6	610.5	622.1	635.6	639.5
35°	581.5	588.2	601.8	617.3	622.1
37.5°	558.2	565.0	581.5	598.9	604.7
40°	534.1	541.8	559.2	579.5	587.3
42.5°	507.9	518.6	537.9	560.2	568.9
45°	481.8	491.5	515.7	540.8	550.5
47.5°	453.8	465.4	491.5	521.5	533.1
50°	423.8	438.3	468.3	501.2	513.7
52.5°	393.8	410.2	444.1	480.8	494.4
55°	364.7	380.2	420.9	460.5	475.0
57.5°	332.8	352.2	396.7	439.2	453.8
60°	299.9	321.2	372.5	417.0	432.5
62.5°	267.0	291.2	349.3	393.8	410.2
65°	234.1	261.2	322.2	369.6	386.0
67.5°	202.2	232.2	297.0	344.4	360.9
70°	165.4	203.2	269.9	316.4	332.8
72.5°	131.6	175.1	243.8	287.3	301.9
75°	101.6	148.0	214.8	254.5	260.3
77.5°	74.5	120.9	184.8	198.3	199.3
80°	50.3	96.7	141.3	139.3	141.3
82.5°	32.9	72.6	89.0	99.7	100.6
85°	19.3	42.6	52.2	58.0	59.0
87.5°	9.7	14.5	18.4	19.3	21.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)