

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: P309179

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-HRP-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: P309179
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-L82765-HRP-CP250-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 1972.0 lumens
Efficiency: N/A
Efficacy: 92.6 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

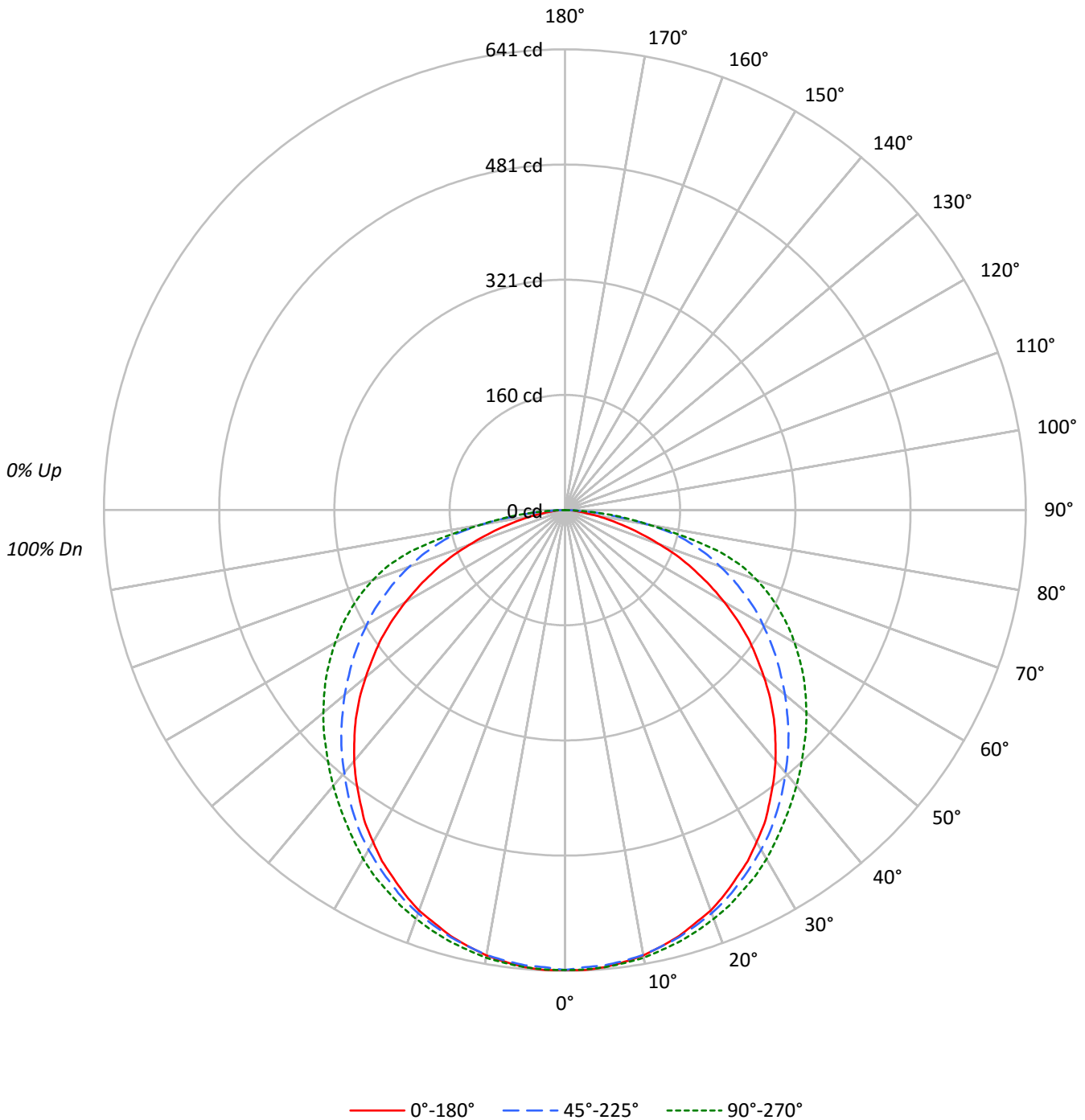
Input Watts (W): 21.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	861	861	861
5°	862	859	862
10°	860	858	864
15°	854	857	865
20°	849	855	866
25°	838	851	868
30°	829	848	871
35°	815	843	872
40°	800	838	880
45°	782	837	894
50°	757	836	918
55°	730	842	951
60°	689	855	993
65°	636	875	1049
70°	555	906	1117
75°	451	953	1155
80°	332	934	934
85°	255	689	778



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	60.6	3.1
10°-20°	174.1	8.8
20°-30°	265.0	13.4
30°-40°	321.7	16.3
40°-50°	339.9	17.2
50°-60°	320.7	16.3
60°-70°	266.7	13.5
70°-80°	175.5	8.9
80°-90°	47.8	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°	499.6	25.3
0°-40°	821.4	41.7
0°-60°	1482.0	75.2
0°-90°	1972.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1972.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	640	640	640	640	640	
5°	638	638	636	638	638	61
15°	613	614	615	621	621	173
25°	565	568	573	583	584	260
35°	496	502	514	527	531	311
45°	411	419	440	462	470	317
55°	311	324	359	393	405	277
65°	200	223	275	315	329	197
75°	87	126	183	217	222	93
85°	16	36	45	50	50	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	639.8	639.8	639.8	639.8	639.8
2.5°	640.6	639.8	636.5	639.8	639.8
5°	638.2	638.2	635.7	638.2	638.2
7.5°	634.0	634.0	632.4	635.7	635.7
10°	629.1	629.1	628.3	632.4	632.4
12.5°	621.7	622.5	621.7	626.6	626.6
15°	613.4	614.2	615.0	620.8	620.8
17.5°	602.7	604.3	606.0	612.6	613.4
20°	592.8	593.6	596.9	604.3	605.1
22.5°	579.6	582.0	586.2	593.6	596.1
25°	564.7	568.0	572.9	582.9	584.5
27.5°	550.7	553.1	559.7	570.5	573.8
30°	533.3	537.4	545.7	556.4	560.6
32.5°	516.8	520.9	530.8	542.4	545.7
35°	496.2	501.9	513.5	526.7	530.8
37.5°	476.4	482.1	496.2	511.0	516.0
40°	455.7	462.3	477.2	494.5	501.1
42.5°	433.4	442.5	459.0	478.0	485.4
45°	411.1	419.4	440.0	461.5	469.7
47.5°	387.2	397.1	419.4	445.0	454.9
50°	361.6	374.0	399.6	427.6	438.4
52.5°	336.0	350.0	378.9	410.3	421.9
55°	311.2	324.4	359.1	393.0	405.4
57.5°	284.0	300.5	338.5	374.8	387.2
60°	255.9	274.1	317.8	355.8	369.0
62.5°	227.9	248.5	298.0	336.0	350.0
65°	199.8	222.9	274.9	315.4	329.4
67.5°	172.5	198.1	253.5	293.9	307.9
70°	141.2	173.4	230.3	270.0	284.0
72.5°	112.3	149.4	208.0	245.2	257.6
75°	86.7	126.3	183.3	217.1	222.1
77.5°	63.6	103.2	157.7	169.2	170.1
80°	42.9	82.6	120.5	118.9	120.5
82.5°	28.1	61.9	76.0	85.0	85.9
85°	16.5	36.3	44.6	49.5	50.4
87.5°	8.3	12.4	15.7	16.5	18.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)