

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: P310521

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-CP187-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: P310521
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-CP187-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB 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: 2668.0 lumens
Efficiency: N/A
Efficacy: 124.1 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

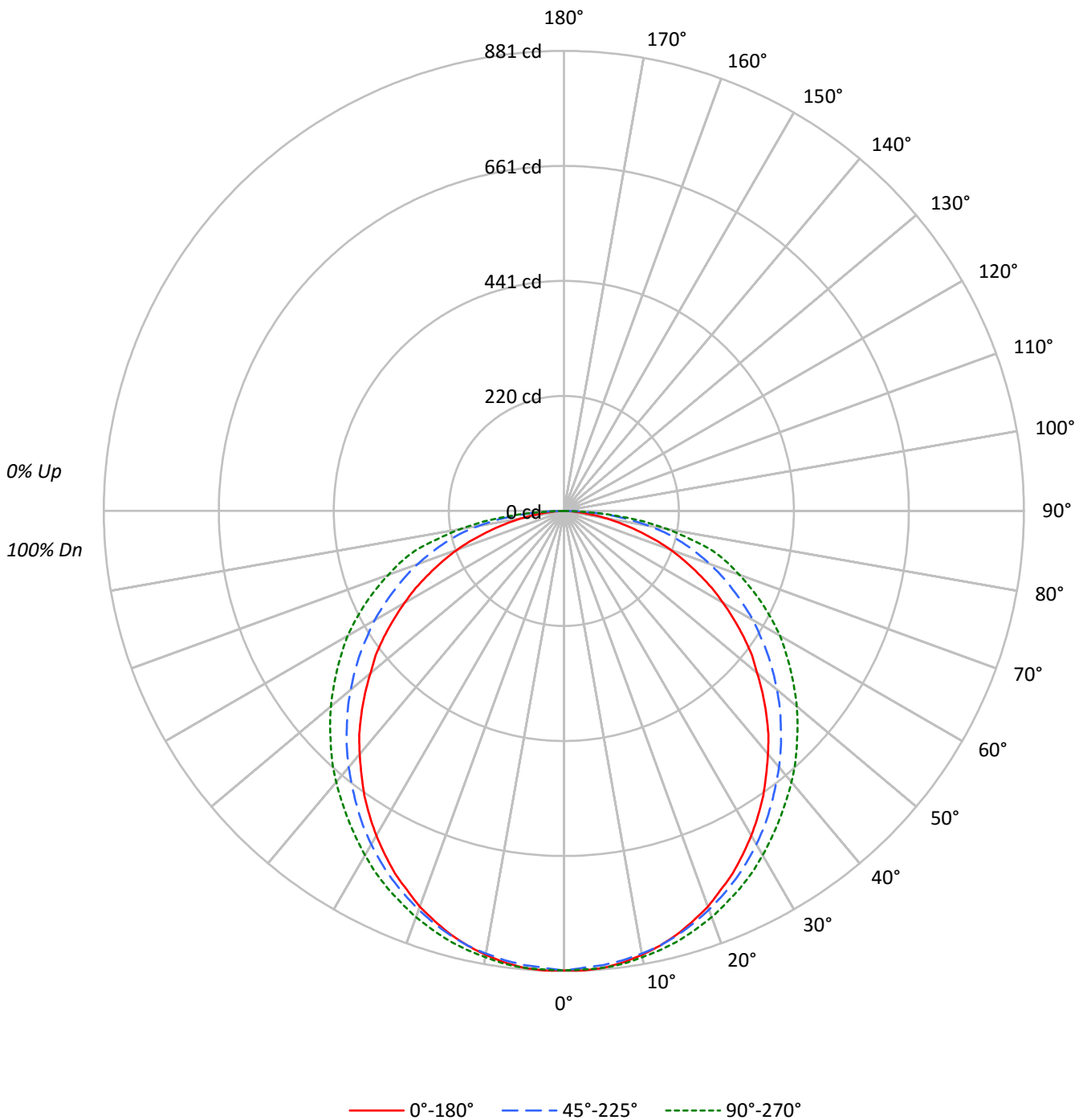
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1184	1184	1184
5°	1186	1179	1186
10°	1179	1176	1185
15°	1169	1171	1186
20°	1155	1164	1185
25°	1137	1155	1184
30°	1115	1146	1183
35°	1093	1134	1183
40°	1068	1126	1191
45°	1043	1118	1201
50°	1012	1115	1219
55°	986	1117	1244
60°	948	1127	1286
65°	904	1138	1333
70°	857	1173	1407
75°	764	1224	1537
80°	652	1296	1571
85°	465	1284	1504



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.3	3.1
10°-20°	238.1	8.9
20°-30°	359.6	13.5
30°-40°	433.4	16.2
40°-50°	455.0	17.1
50°-60°	425.7	16.0
60°-70°	351.6	13.2
70°-80°	239.6	9.0
80°-90°	81.7	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°	681.0	25.5
0°-40°	1114.4	41.8
0°-60°	1995.2	74.8
0°-90°	2668.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2668.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	880	880	880	880	880	
5°	878	877	873	878	878	83
15°	839	840	841	850	852	237
25°	766	769	778	793	798	352
35°	666	673	690	714	720	416
45°	548	559	588	620	631	423
55°	420	437	476	515	530	375
65°	284	308	358	403	419	282
75°	147	181	236	280	296	157
85°	30	59	83	94	97	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	879.9	879.9	879.9	879.9	879.9
2.5°	880.8	879.9	875.5	879.9	879.0
5°	878.1	877.2	872.8	878.1	878.1
7.5°	871.9	871.9	867.5	873.7	874.6
10°	863.1	863.1	860.4	867.5	867.5
12.5°	852.4	852.4	852.4	859.5	860.4
15°	839.2	840.0	840.9	849.8	851.6
17.5°	823.2	825.0	827.7	838.3	840.0
20°	806.4	808.2	812.6	825.0	827.7
22.5°	785.2	789.6	795.8	810.0	812.6
25°	765.7	769.2	778.1	793.1	797.6
27.5°	741.8	747.1	758.6	774.5	780.7
30°	717.9	723.2	737.4	756.0	761.3
32.5°	692.2	700.2	715.2	734.7	740.9
35°	665.7	672.7	690.5	713.5	720.5
37.5°	636.5	646.2	665.7	690.5	699.3
40°	608.1	618.8	640.9	667.4	678.1
42.5°	579.8	590.4	615.2	645.3	655.9
45°	547.9	559.4	587.8	619.6	631.1
47.5°	516.1	530.2	561.2	594.9	607.2
50°	483.3	499.2	532.9	568.3	582.5
52.5°	454.1	469.2	504.6	542.6	555.9
55°	420.5	437.3	476.2	515.2	530.2
57.5°	385.9	404.5	446.1	488.6	503.7
60°	352.3	372.7	418.7	461.2	478.0
62.5°	319.6	339.9	387.7	432.0	448.8
65°	284.1	308.0	357.6	402.8	418.7
67.5°	250.5	276.2	328.4	372.7	388.6
70°	217.8	242.5	298.3	341.7	357.6
72.5°	182.4	210.7	266.4	311.6	328.4
75°	146.9	180.6	235.5	279.7	295.7
77.5°	114.2	148.7	203.6	239.9	247.9
80°	84.1	119.5	167.3	193.0	202.7
82.5°	54.0	89.4	127.5	146.1	154.0
85°	30.1	59.3	83.2	93.8	97.4
87.5°	12.4	25.7	33.6	38.1	38.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)