

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: P311187

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CP125-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: P311187
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
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-S-CP125-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.125" 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: 2928.0 lumens
Efficiency: N/A
Efficacy: 136.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

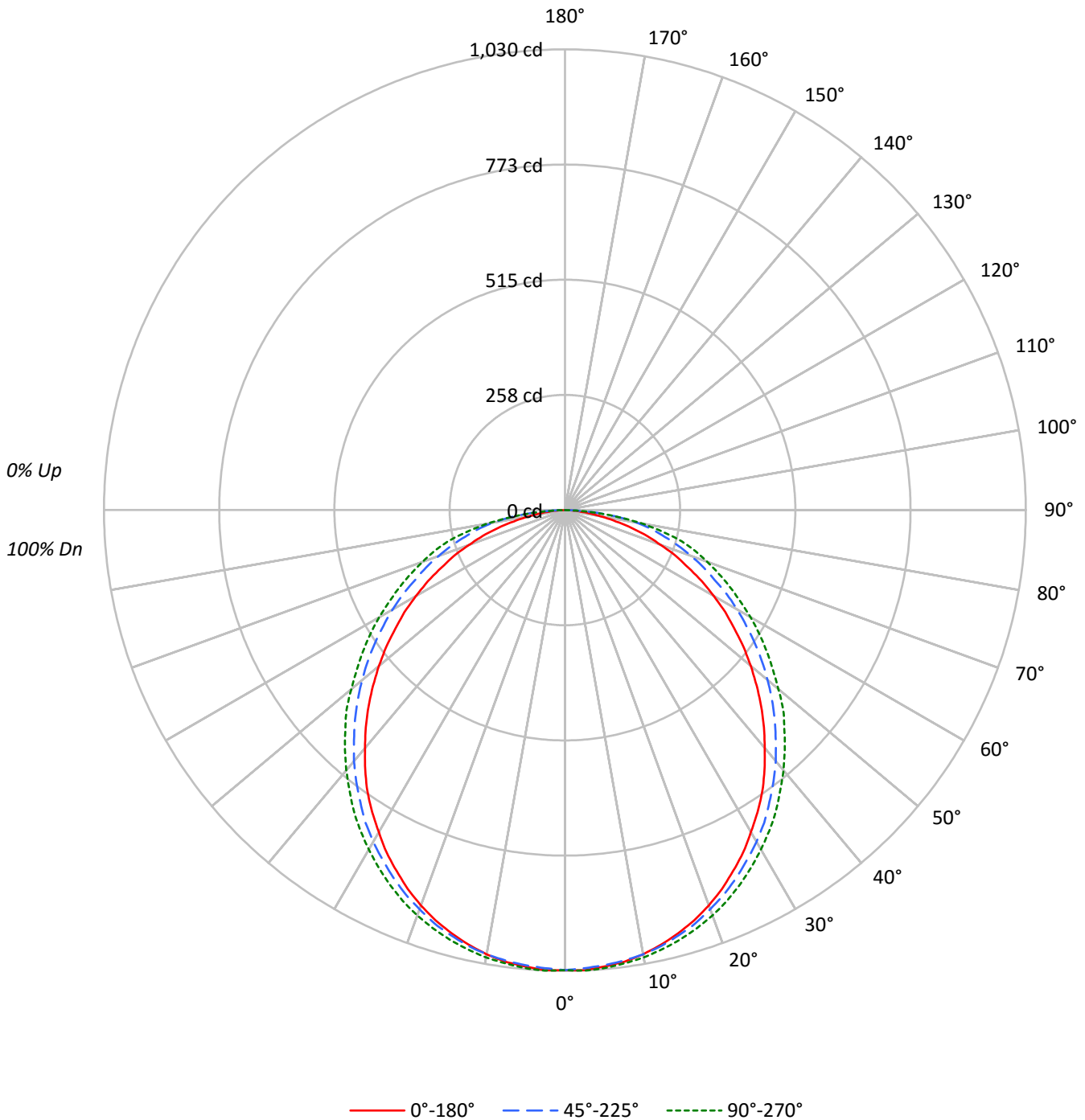
Input Watts (W): 21.5
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-30HE-UNV-L82765-S-CP125-W2A-U-4500K

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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1384	1384	1384
5°	1383	1379	1388
10°	1377	1377	1388
15°	1364	1371	1385
20°	1346	1360	1381
25°	1321	1346	1372
30°	1292	1331	1361
35°	1263	1309	1350
40°	1220	1287	1335
45°	1180	1262	1320
50°	1135	1238	1304
55°	1084	1215	1292
60°	1034	1196	1289
65°	968	1175	1297
70°	897	1182	1332
75°	803	1204	1407
80°	649	1275	1376
85°	488	1119	1091



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.4	3.3
10°-20°	278.3	9.5
20°-30°	418.3	14.3
30°-40°	498.2	17.0
40°-50°	509.9	17.4
50°-60°	459.1	15.7
60°-70°	360.5	12.3
70°-80°	234.0	8.0
80°-90°	72.4	2.5
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°	793.9	27.1
0°-40°	1292.1	44.1
0°-60°	2261.1	77.2
0°-90°	2928.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2928.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1029	1029	1029	1029	1029	
5°	1024	1026	1021	1027	1028	97
15°	979	982	984	992	994	276
25°	890	898	907	922	924	410
35°	769	778	797	817	822	480
45°	620	635	663	688	694	478
55°	462	483	518	545	551	414
65°	304	327	369	400	407	303
75°	154	184	232	263	271	163
85°	32	59	72	71	71	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1028.6	1028.6	1028.6	1028.6	1028.6
2.5°	1029.6	1029.6	1024.9	1029.6	1030.5
5°	1024.0	1025.8	1021.2	1026.8	1027.7
7.5°	1018.4	1018.4	1015.6	1021.2	1022.1
10°	1008.2	1009.1	1008.2	1014.7	1015.6
12.5°	995.1	997.0	997.9	1004.4	1005.4
15°	979.3	982.1	984.0	992.4	994.2
17.5°	961.7	964.5	969.1	978.4	980.3
20°	940.3	944.0	949.6	961.7	964.5
22.5°	917.0	920.7	930.0	941.2	945.9
25°	890.0	897.5	906.8	921.7	924.5
27.5°	863.1	869.6	881.7	897.5	901.2
30°	831.5	841.7	856.6	872.4	876.1
32.5°	800.8	811.0	828.7	845.4	850.1
35°	769.1	778.4	797.0	816.6	822.2
37.5°	732.9	745.0	765.4	785.0	790.5
40°	694.7	709.6	732.9	753.3	759.8
42.5°	658.5	674.3	697.5	719.9	727.3
45°	620.3	635.2	663.1	688.2	693.8
47.5°	581.3	598.0	627.8	652.9	662.2
50°	542.2	559.9	591.5	617.5	623.1
52.5°	503.2	521.8	555.2	583.1	585.9
55°	462.2	482.7	518.0	545.0	550.6
57.5°	425.0	442.7	480.8	508.7	515.2
60°	384.1	403.6	444.6	470.6	479.0
62.5°	345.0	365.5	408.3	434.3	441.8
65°	304.1	327.4	369.2	399.9	407.4
67.5°	268.8	291.1	335.7	365.5	372.9
70°	227.9	253.0	300.4	331.1	338.5
72.5°	192.5	218.6	266.0	295.8	306.9
75°	154.4	184.1	231.6	263.2	270.6
77.5°	117.2	151.6	200.0	224.1	224.1
80°	83.7	120.0	164.6	175.8	177.6
82.5°	54.9	90.2	121.8	120.9	120.9
85°	31.6	58.6	72.5	70.7	70.7
87.5°	12.1	24.2	26.0	26.0	25.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)