

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: P311168

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CA08-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: P311168
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-CA08-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC 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: 2943.0 lumens
Efficiency: N/A
Efficacy: 138.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

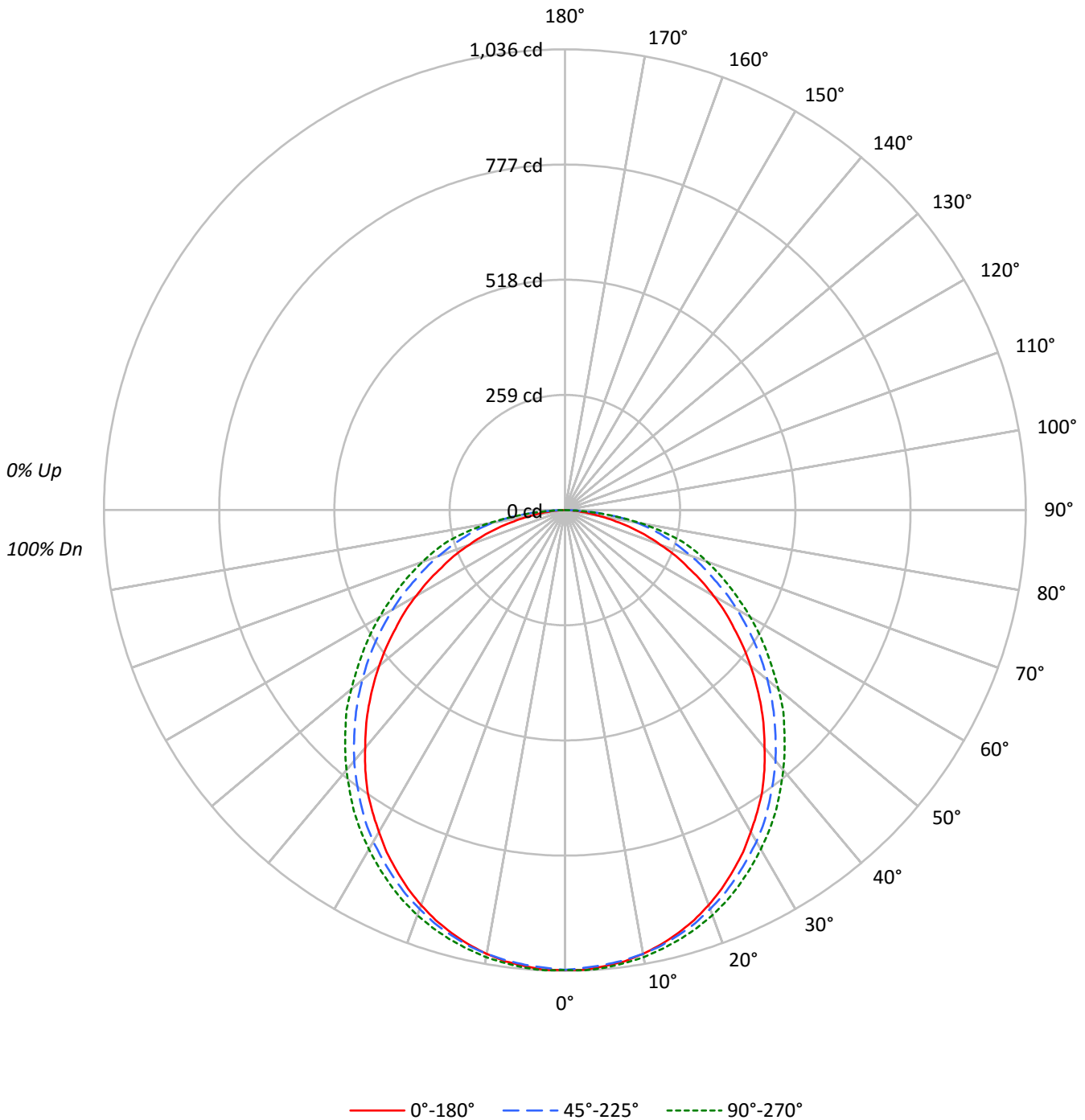
Input Watts (W): 21.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 24FC22-30HE-UNV-L82765-S-CA08-W2A-U-4000K

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°	1391	1391	1391
5°	1390	1386	1395
10°	1384	1384	1395
15°	1371	1378	1392
20°	1353	1367	1388
25°	1328	1353	1379
30°	1298	1338	1368
35°	1270	1316	1357
40°	1227	1294	1341
45°	1186	1268	1327
50°	1141	1244	1311
55°	1090	1221	1298
60°	1039	1202	1295
65°	973	1181	1303
70°	901	1188	1339
75°	807	1210	1414
80°	652	1282	1383
85°	491	1125	1096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	97.9	3.3
10°-20°	279.7	9.5
20°-30°	420.4	14.3
30°-40°	500.8	17.0
40°-50°	512.5	17.4
50°-60°	461.4	15.7
60°-70°	362.4	12.3
70°-80°	235.2	8.0
80°-90°	72.7	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°	798.0	27.1
0°-40°	1298.8	44.1
0°-60°	2272.7	77.2
0°-90°	2943.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2943.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1034	1034	1034	1034	1034	
5°	1029	1031	1026	1032	1033	98
15°	984	987	989	997	999	278
25°	895	902	911	926	929	412
35°	773	782	801	821	826	482
45°	624	638	666	692	697	481
55°	465	485	521	548	553	417
65°	306	329	371	402	409	304
75°	155	185	233	265	272	164
85°	32	59	73	71	71	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1033.9	1033.9	1033.9	1033.9	1033.9
2.5°	1034.8	1034.8	1030.2	1034.8	1035.8
5°	1029.2	1031.1	1026.4	1032.0	1033.0
7.5°	1023.6	1023.6	1020.8	1026.4	1027.4
10°	1013.3	1014.3	1013.3	1019.9	1020.8
12.5°	1000.2	1002.1	1003.0	1009.6	1010.5
15°	984.4	987.2	989.0	997.4	999.3
17.5°	966.6	969.4	974.1	983.4	985.3
20°	945.1	948.8	954.4	966.6	969.4
22.5°	921.7	925.5	934.8	946.0	950.7
25°	894.6	902.1	911.4	926.4	929.2
27.5°	867.5	874.0	886.2	902.1	905.8
30°	835.7	846.0	861.0	876.8	880.6
32.5°	804.9	815.2	832.9	849.7	854.4
35°	773.1	782.4	801.1	820.8	826.4
37.5°	736.6	748.8	769.3	789.0	794.6
40°	698.3	713.3	736.6	757.2	763.7
42.5°	661.8	677.7	701.1	723.5	731.0
45°	623.5	638.5	666.5	691.8	697.4
47.5°	584.3	601.1	631.0	656.2	665.6
50°	545.0	562.8	594.5	620.7	626.3
52.5°	505.7	524.4	558.1	586.1	588.9
55°	464.6	485.2	520.7	547.8	553.4
57.5°	427.2	445.0	483.3	511.3	517.9
60°	386.1	405.7	446.8	473.0	481.4
62.5°	346.8	367.4	410.4	436.6	444.0
65°	305.7	329.1	371.1	402.0	409.4
67.5°	270.2	292.6	337.5	367.4	374.9
70°	229.0	254.3	301.9	332.8	340.3
72.5°	193.5	219.7	267.4	297.3	308.5
75°	155.2	185.1	232.8	264.6	272.0
77.5°	117.8	152.4	201.0	225.3	225.3
80°	84.1	120.6	165.5	176.7	178.5
82.5°	55.2	90.7	122.5	121.5	121.5
85°	31.8	58.9	72.9	71.0	71.0
87.5°	12.2	24.3	26.2	26.2	25.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)