

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: P314166

Luminaire Tested: **24FCZ2-30HE-UNV-L83050-S-CA08-W2A-U-3500K**

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: P314166
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-L83050-S-CA08-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.08" ACRYLIC SHEET
Light Source: (336) 3500K 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: 2949.0 lumens
Efficiency: N/A
Efficacy: 139.8 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

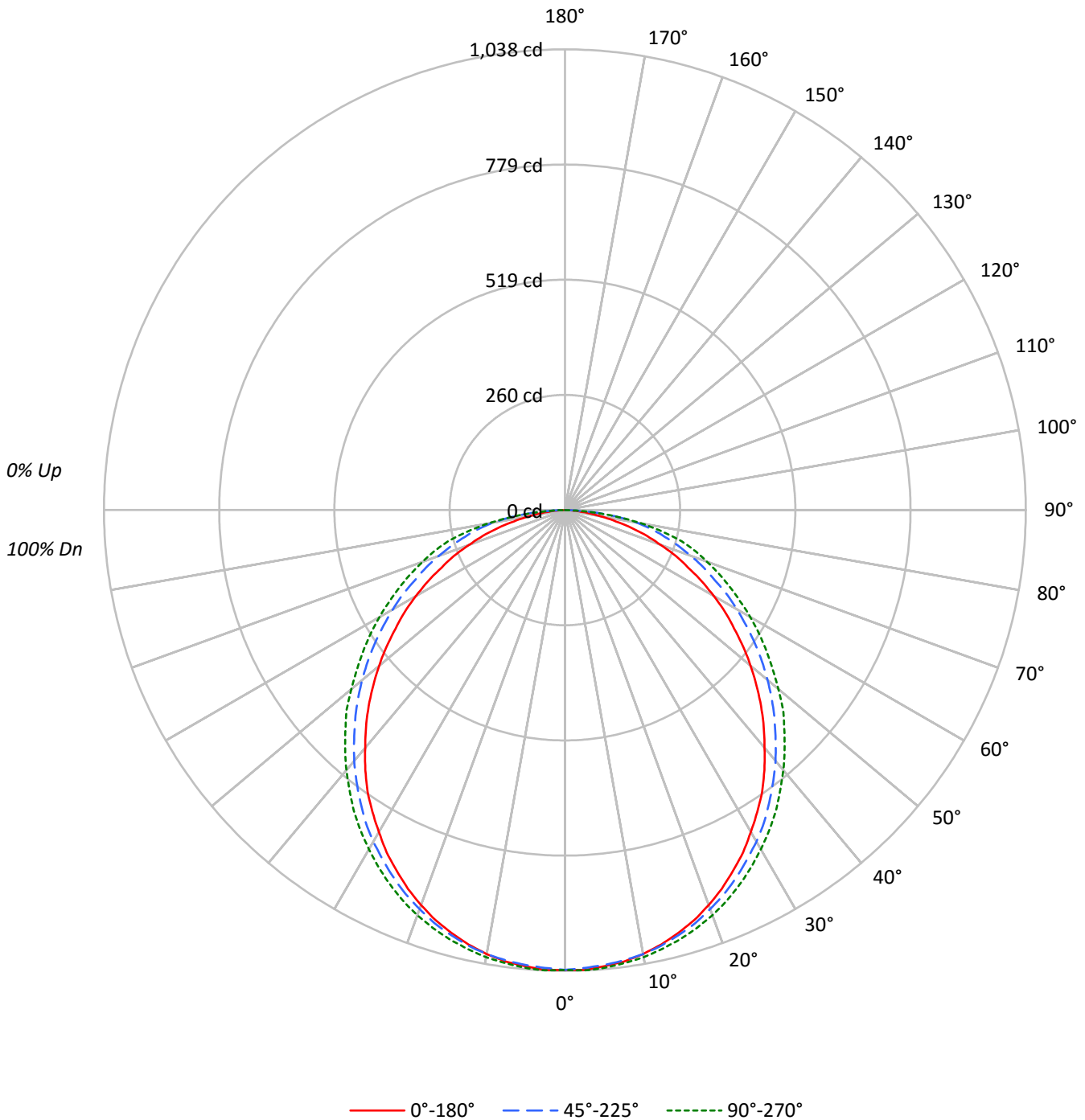
Input Watts (W): 21.1
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1394	1394	1394
5°	1393	1389	1398
10°	1387	1387	1398
15°	1374	1380	1395
20°	1356	1369	1391
25°	1331	1356	1382
30°	1301	1340	1371
35°	1272	1319	1360
40°	1229	1296	1344
45°	1189	1271	1330
50°	1143	1247	1314
55°	1092	1224	1301
60°	1041	1205	1298
65°	975	1184	1306
70°	903	1190	1341
75°	808	1212	1417
80°	653	1285	1386
85°	491	1129	1099



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.1	3.3
10°-20°	280.3	9.5
20°-30°	421.3	14.3
30°-40°	501.8	17.0
40°-50°	513.6	17.4
50°-60°	462.4	15.7
60°-70°	363.1	12.3
70°-80°	235.7	8.0
80°-90°	72.9	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°	799.6	27.1
0°-40°	1301.4	44.1
0°-60°	2277.3	77.2
0°-90°	2949.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2949.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1036	1036	1036	1036	1036	
5°	1031	1033	1028	1034	1035	98
15°	986	989	991	1000	1001	278
25°	896	904	913	928	931	413
35°	775	784	803	822	828	483
45°	625	640	668	693	699	482
55°	466	486	522	549	554	417
65°	306	330	372	403	410	305
75°	156	186	233	265	273	165
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°	1036.0	1036.0	1036.0	1036.0	1036.0
2.5°	1036.9	1036.9	1032.3	1036.9	1037.9
5°	1031.3	1033.2	1028.5	1034.1	1035.1
7.5°	1025.7	1025.7	1022.9	1028.5	1029.4
10°	1015.4	1016.3	1015.4	1022.0	1022.9
12.5°	1002.3	1004.2	1005.1	1011.6	1012.6
15°	986.4	989.2	991.0	999.5	1001.3
17.5°	968.6	971.4	976.1	985.4	987.3
20°	947.0	950.8	956.4	968.6	971.4
22.5°	923.6	927.3	936.7	948.0	952.6
25°	896.4	903.9	913.3	928.3	931.1
27.5°	869.3	875.8	888.0	903.9	907.7
30°	837.4	847.7	862.7	878.6	882.4
32.5°	806.5	816.8	834.6	851.5	856.2
35°	774.7	784.0	802.8	822.4	828.1
37.5°	738.1	750.3	770.9	790.6	796.2
40°	699.7	714.7	738.1	758.7	765.3
42.5°	663.2	679.1	702.5	725.0	732.5
45°	624.8	639.8	667.9	693.2	698.8
47.5°	585.4	602.3	632.3	657.6	666.9
50°	546.1	563.9	595.7	622.0	627.6
52.5°	506.8	525.5	559.2	587.3	590.1
55°	465.5	486.2	521.7	548.9	554.5
57.5°	428.1	445.9	484.3	512.4	518.9
60°	386.9	406.5	447.7	474.0	482.4
62.5°	347.5	368.1	411.2	437.4	444.9
65°	306.3	329.7	371.9	402.8	410.3
67.5°	270.7	293.2	338.2	368.1	375.6
70°	229.5	254.8	302.6	333.5	341.0
72.5°	193.9	220.1	267.9	297.9	309.1
75°	155.5	185.5	233.2	265.1	272.6
77.5°	118.0	152.7	201.4	225.7	225.7
80°	84.3	120.8	165.8	177.0	178.9
82.5°	55.3	90.9	122.7	121.8	121.8
85°	31.8	59.0	73.1	71.2	71.2
87.5°	12.2	24.4	26.2	26.2	25.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)