

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: P312440

Luminaire Tested: **22FCZ2-20HE-UNV-L83050-HRP-CA08-W2A-U-3000K**

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: P312440
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-22)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-20HE-UNV-L83050-HRP-CA08-W2A-U-3000K
Description: 2'X2' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.08" ACRYLIC SHEET
Light Source: (168) 3000K 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: 1480.0 lumens
Efficiency: N/A
Efficacy: 88.6 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

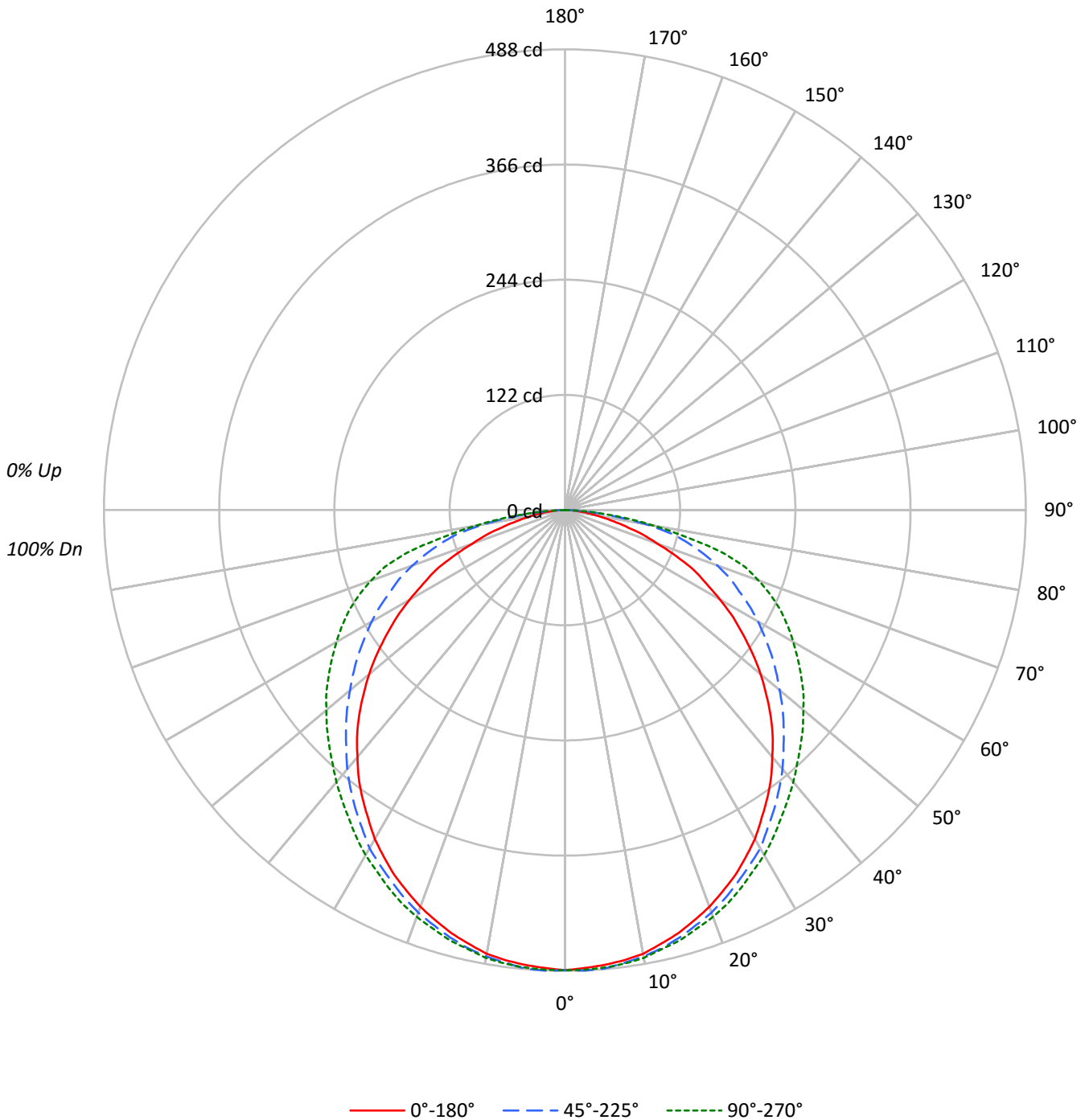
Input Watts (W): 16.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: 22FC22-20HE-UNV-L83050-HRP-CA08-W2A-U-3000K

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	87	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	68
3	89	78	69	62	86	76	68	62	73	66	61	70	64	60	68	63	59	56
4	81	69	59	52	79	67	59	52	65	57	51	62	56	51	60	55	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	39	50	43	38	49	43	38	36
7	64	50	41	34	62	49	40	34	47	40	34	46	39	34	44	38	33	31
8	59	45	37	31	58	45	36	31	43	36	30	42	35	30	41	35	30	28
9	55	42	33	28	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°	1311	1311	1311
5°	1306	1316	1314
10°	1304	1311	1316
15°	1293	1306	1314
20°	1281	1299	1313
25°	1267	1289	1311
30°	1250	1285	1311
35°	1227	1270	1310
40°	1200	1259	1322
45°	1173	1247	1343
50°	1133	1243	1380
55°	1082	1253	1432
60°	1020	1271	1503
65°	963	1296	1605
70°	823	1352	1719
75°	689	1408	1786
80°	564	1361	1491
85°	491	1010	1096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.2	3.1
10°-20°	132.1	8.9
20°-30°	200.2	13.5
30°-40°	241.8	16.3
40°-50°	254.1	17.2
50°-60°	239.0	16.2
60°-70°	199.3	13.5
70°-80°	132.1	8.9
80°-90°	35.2	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°	378.5	25.6
0°-40°	620.3	41.9
0°-60°	1113.4	75.2
0°-90°	1480.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1480.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	487	487	487	487	487	
5°	484	484	487	487	486	46
15°	464	466	469	470	472	131
25°	427	430	434	440	442	196
35°	373	377	386	395	399	234
45°	308	313	328	344	353	237
55°	231	241	267	294	305	206
65°	151	164	204	237	252	147
75°	66	92	135	163	172	72
85°	16	24	33	36	36	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	487.3	487.3	487.3	487.3	487.3
2.5°	485.5	486.4	488.3	488.3	487.3
5°	483.6	484.5	487.3	487.3	486.4
7.5°	480.8	481.7	483.6	485.5	484.5
10°	477.1	478.0	479.9	481.7	481.7
12.5°	470.5	471.5	475.2	476.1	476.1
15°	464.0	465.9	468.7	470.5	471.5
17.5°	455.6	457.5	461.2	464.9	464.9
20°	447.2	449.1	453.7	457.5	458.4
22.5°	436.9	439.7	444.4	449.1	450.9
25°	426.7	429.5	434.1	439.7	441.6
27.5°	414.5	417.3	423.9	430.4	431.3
30°	402.4	405.2	413.6	419.2	422.0
32.5°	387.5	391.2	399.6	408.0	410.8
35°	373.4	377.2	386.5	394.9	398.7
37.5°	358.5	362.2	372.5	382.8	387.5
40°	341.7	346.4	358.5	369.7	376.2
42.5°	325.8	330.5	342.6	357.6	364.1
45°	308.1	312.8	327.7	344.5	352.9
47.5°	289.4	295.0	312.8	333.3	341.7
50°	270.7	277.3	296.9	320.2	329.6
52.5°	251.1	259.5	282.0	307.2	318.4
55°	230.6	240.9	267.0	294.1	305.3
57.5°	211.0	220.3	251.1	280.1	292.2
60°	189.5	201.7	236.2	266.1	279.2
62.5°	169.0	182.1	220.3	252.1	266.1
65°	151.2	164.3	203.5	237.1	252.1
67.5°	127.9	145.6	189.5	221.3	236.2
70°	104.6	128.8	171.8	204.5	218.5
72.5°	86.8	110.2	154.0	186.7	199.8
75°	66.3	92.4	135.4	163.4	171.8
77.5°	49.5	76.6	115.8	129.8	130.7
80°	36.4	58.8	87.8	92.4	96.2
82.5°	25.2	41.1	57.0	62.6	64.4
85°	15.9	24.3	32.7	35.5	35.5
87.5°	8.4	9.3	11.2	11.2	11.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)