

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: P311205

Luminaire Tested: **24FCZ2-30HE-UNV-L82765-S-CP250-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: P311205
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-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" 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

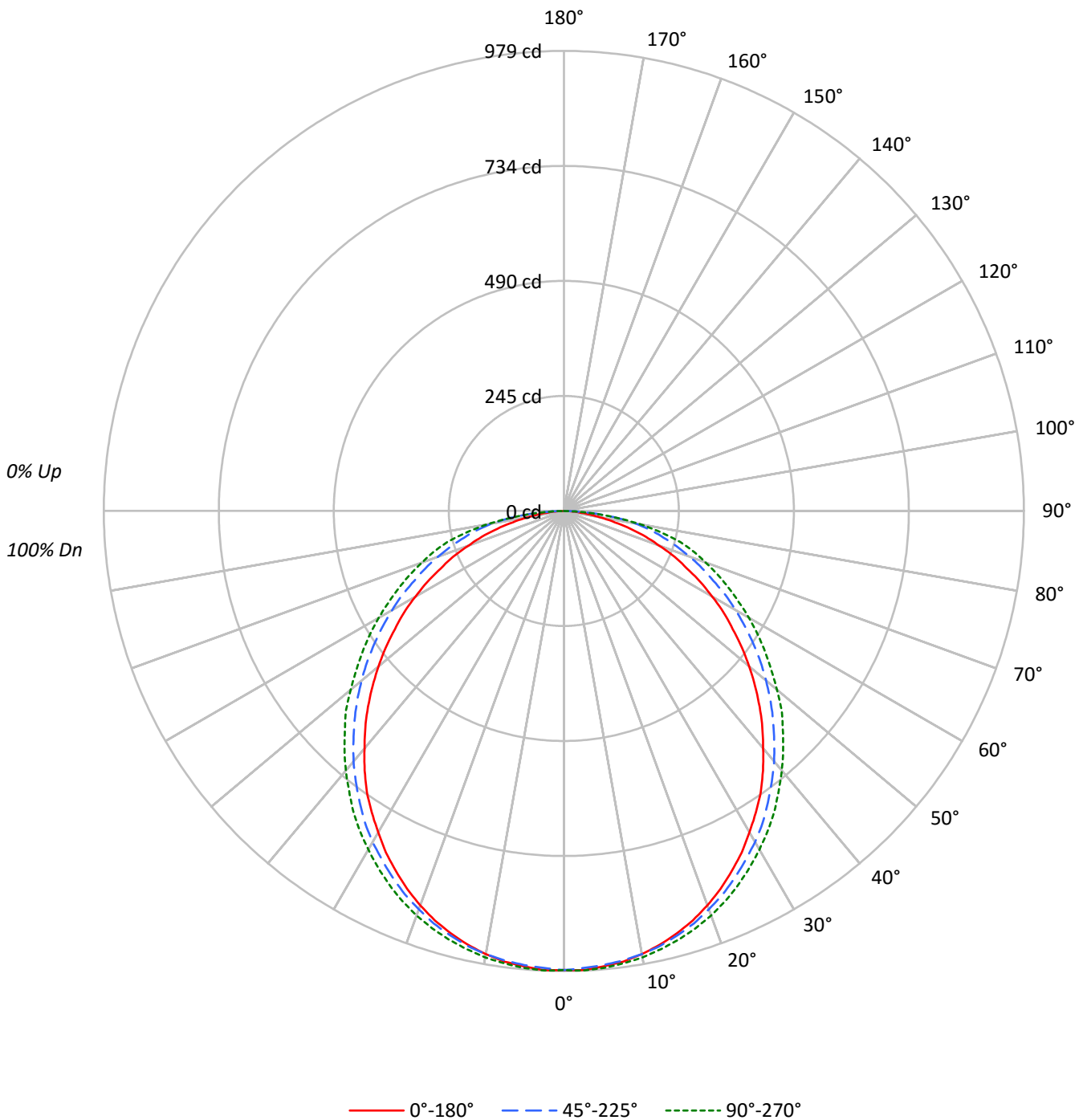
Lumens per Lamp: N/A
Luminaire Lumens: 2781.0 lumens
Efficiency: N/A
Efficacy: 129.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 21.5
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	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°	1315	1315	1315
5°	1314	1310	1318
10°	1308	1308	1318
15°	1296	1302	1315
20°	1279	1291	1312
25°	1255	1279	1303
30°	1227	1264	1293
35°	1200	1243	1283
40°	1159	1223	1268
45°	1121	1198	1254
50°	1078	1176	1239
55°	1030	1154	1227
60°	982	1136	1224
65°	920	1117	1232
70°	851	1122	1265
75°	762	1144	1337
80°	616	1212	1307
85°	463	1064	1036



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.5	3.3
10°-20°	264.3	9.5
20°-30°	397.3	14.3
30°-40°	473.2	17.0
40°-50°	484.3	17.4
50°-60°	436.0	15.7
60°-70°	342.4	12.3
70°-80°	222.2	8.0
80°-90°	68.7	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°	754.0	27.1
0°-40°	1227.3	44.1
0°-60°	2147.6	77.2
0°-90°	2781.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2781.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	977	977	977	977	977	
5°	973	974	970	975	976	92
15°	930	933	935	942	944	262
25°	845	852	861	875	878	389
35°	730	739	757	776	781	456
45°	589	603	630	654	659	454
55°	439	458	492	518	523	394
65°	289	311	351	380	387	288
75°	147	175	220	250	257	155
85°	30	56	69	67	67	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	977.0	977.0	977.0	977.0	977.0
2.5°	977.9	977.9	973.5	977.9	978.8
5°	972.6	974.3	969.9	975.2	976.1
7.5°	967.3	967.3	964.6	969.9	970.8
10°	957.5	958.4	957.5	963.7	964.6
12.5°	945.2	946.9	947.8	954.0	954.9
15°	930.2	932.8	934.6	942.5	944.3
17.5°	913.4	916.0	920.4	929.3	931.0
20°	893.1	896.6	901.9	913.4	916.0
22.5°	871.0	874.5	883.3	893.9	898.4
25°	845.4	852.4	861.3	875.4	878.0
27.5°	819.7	825.9	837.4	852.4	856.0
30°	789.7	799.4	813.6	828.6	832.1
32.5°	760.6	770.3	787.1	803.0	807.4
35°	730.5	739.4	757.0	775.6	780.9
37.5°	696.1	707.6	727.0	745.5	750.8
40°	659.9	674.0	696.1	715.5	721.7
42.5°	625.4	640.4	662.5	683.7	690.8
45°	589.2	603.3	629.8	653.7	659.0
47.5°	552.1	568.0	596.3	620.1	628.9
50°	515.0	531.8	561.8	586.5	591.8
52.5°	477.9	495.6	527.4	553.9	556.5
55°	439.0	458.5	492.0	517.6	522.9
57.5°	403.7	420.5	456.7	483.2	489.4
60°	364.8	383.4	422.2	447.0	454.9
62.5°	327.7	347.2	387.8	412.5	419.6
65°	288.9	310.9	350.7	379.8	386.9
67.5°	255.3	276.5	318.9	347.2	354.2
70°	216.4	240.3	285.3	314.5	321.5
72.5°	182.9	207.6	252.6	280.9	291.5
75°	146.6	174.9	220.0	250.0	257.1
77.5°	111.3	144.0	189.9	212.9	212.9
80°	79.5	114.0	156.4	167.0	168.7
82.5°	52.1	85.7	115.7	114.8	114.8
85°	30.0	55.7	68.9	67.1	67.1
87.5°	11.5	23.0	24.7	24.7	23.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)