

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: P309655

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-HRP-CP125-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: P309655
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-HRP-CP125-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.125" POLYCARB 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: 3992.0 lumens
Efficiency: N/A
Efficacy: 83.5 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

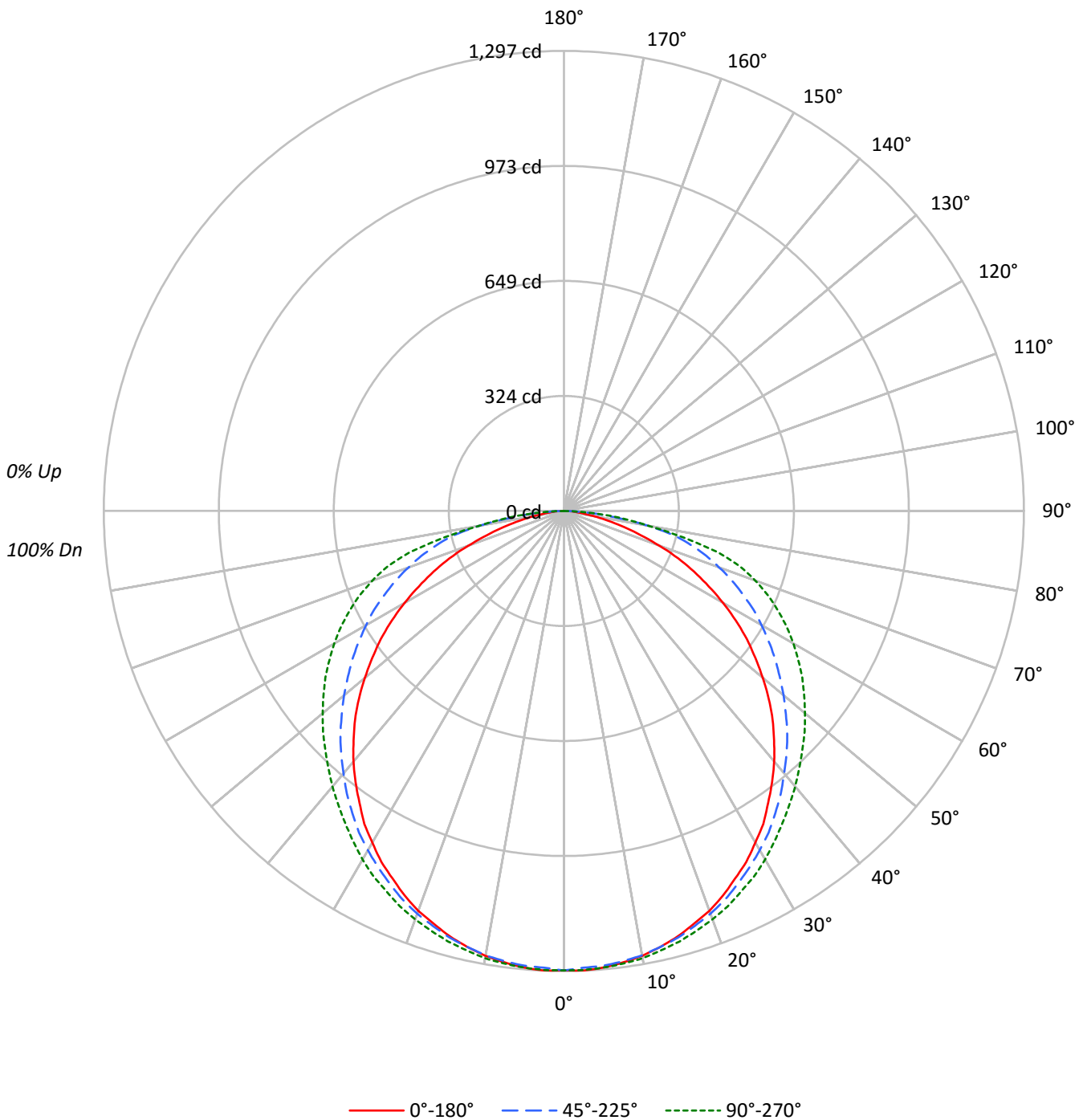
Input Watts (W): 47.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	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	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1743	1743	1743
5°	1745	1738	1745
10°	1740	1738	1749
15°	1730	1734	1751
20°	1718	1730	1754
25°	1697	1722	1757
30°	1677	1716	1763
35°	1650	1707	1765
40°	1620	1697	1782
45°	1584	1695	1809
50°	1532	1693	1858
55°	1478	1705	1925
60°	1394	1731	2010
65°	1287	1772	2123
70°	1124	1834	2262
75°	912	1929	2337
80°	673	1891	1891
85°	516	1392	1573



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.7	3.1
10°-20°	352.3	8.8
20°-30°	536.4	13.4
30°-40°	651.3	16.3
40°-50°	688.1	17.2
50°-60°	649.3	16.3
60°-70°	539.9	13.5
70°-80°	355.2	8.9
80°-90°	96.8	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°	1011.4	25.3
0°-40°	1662.7	41.7
0°-60°	3000.1	75.2
0°-90°	3992.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3992.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1295	1295	1295	1295	1295	
5°	1292	1292	1287	1292	1292	123
15°	1242	1243	1245	1257	1257	350
25°	1143	1150	1160	1180	1183	527
35°	1004	1016	1040	1066	1075	629
45°	832	849	891	934	951	641
55°	630	657	727	796	821	561
65°	404	451	556	638	667	400
75°	176	256	371	440	450	189
85°	33	74	90	100	102	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1295.2	1295.2	1295.2	1295.2	1295.2
2.5°	1296.9	1295.2	1288.5	1295.2	1295.2
5°	1291.9	1291.9	1286.9	1291.9	1291.9
7.5°	1283.5	1283.5	1280.2	1286.9	1286.9
10°	1273.5	1273.5	1271.8	1280.2	1280.2
12.5°	1258.4	1260.1	1258.4	1268.5	1268.5
15°	1241.7	1243.4	1245.1	1256.8	1256.8
17.5°	1220.0	1223.3	1226.7	1240.1	1241.7
20°	1199.9	1201.6	1208.3	1223.3	1225.0
22.5°	1173.2	1178.2	1186.6	1201.6	1206.6
25°	1143.1	1149.8	1159.8	1179.9	1183.2
27.5°	1114.7	1119.7	1133.1	1154.8	1161.5
30°	1079.6	1088.0	1104.7	1126.4	1134.8
32.5°	1046.2	1054.5	1074.6	1098.0	1104.7
35°	1004.4	1016.1	1039.5	1066.2	1074.6
37.5°	964.3	976.0	1004.4	1034.5	1044.5
40°	922.5	935.9	966.0	1001.1	1014.4
42.5°	877.4	895.8	929.2	967.6	982.7
45°	832.3	849.0	890.8	934.2	950.9
47.5°	783.8	803.9	849.0	900.8	920.9
50°	732.0	757.1	808.9	865.7	887.4
52.5°	680.2	708.6	767.1	830.6	854.0
55°	630.1	656.8	727.0	795.5	820.6
57.5°	574.9	608.3	685.2	758.7	783.8
60°	518.1	554.9	643.4	720.3	747.0
62.5°	461.3	503.0	603.3	680.2	708.6
65°	404.4	451.2	556.5	638.4	666.8
67.5°	349.3	401.1	513.1	595.0	623.4
70°	285.8	351.0	466.3	546.5	574.9
72.5°	227.3	302.5	421.2	496.4	521.4
75°	175.5	255.7	371.0	439.5	449.6
77.5°	128.7	208.9	319.2	342.6	344.3
80°	86.9	167.1	244.0	240.7	244.0
82.5°	56.8	125.3	153.8	172.1	173.8
85°	33.4	73.5	90.2	100.3	101.9
87.5°	16.7	25.1	31.8	33.4	36.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)