

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: P735598

Luminaire Tested: **4APN6-29-B2750-W2D-2700K**

Issue Date: 1/5/2024



Test Information

Test Method: LM-79-08
Report Number: P735598
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P709119)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 1/5/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN6-29-B2750-W2D-2700K
Description: 4FT 2900 AMBIENT LUMEN OUTPUT APN WITH BIO UP LEDS AT 2700K CCT

Light Source: -
Ballast/Driver: -

Summary

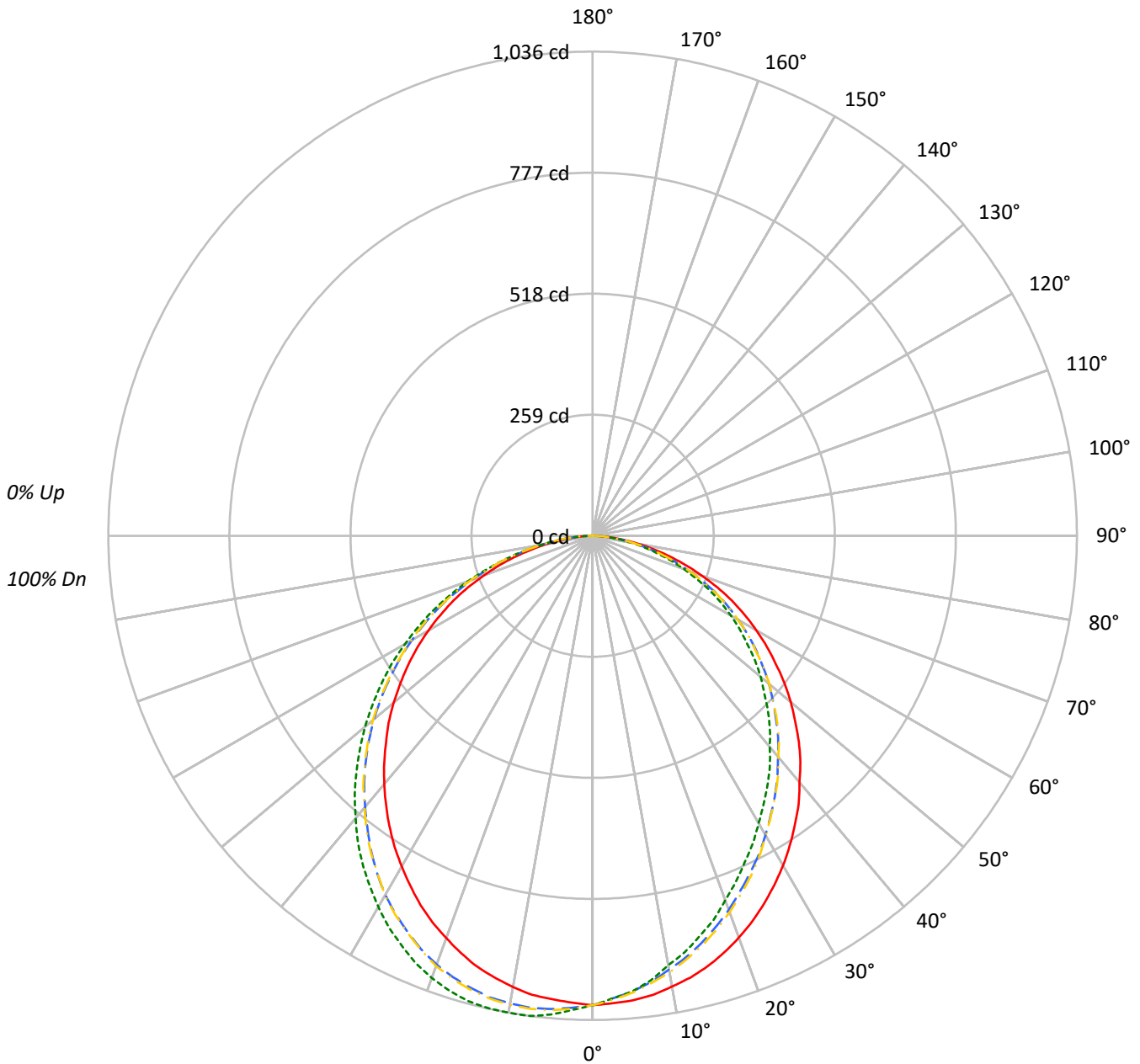
Lumens per Lamp: N/A
Luminaire Lumens: 2694.0 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 28.5
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

TEST NUMBER: P735598

CATALOG NUMBER: 4APN6-29-B2750-W2D-2700K

Luminous Intensity Polar Plot





TEST NUMBER: P735598

CATALOG NUMBER: 4APN6-29-B2750-W2D-2700K

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	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	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84																			
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	70																			
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59																			
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51																			
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44																			
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	38																			
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34																			
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30																			
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27																			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9268	9268	9268	9268
5°	9240	9061	9219	9524
10°	9176	8740	9188	9709
15°	9106	8467	9118	9844
20°	8982	8145	8993	9885
25°	8837	7843	8872	9844
30°	8679	7566	8704	9768
35°	8498	7346	8536	9664
40°	8293	7102	8349	9498
45°	8139	6924	8155	9325
50°	7943	6736	7975	9117
55°	7695	6489	7748	8865
60°	7464	6290	7486	8555
65°	7167	6028	7167	8187
70°	6682	5579	6652	7631
75°	6078	5062	5996	6848
80°	5255	4346	5074	5860
85°	4097	3250	3853	4817



TEST NUMBER: P735598

CATALOG NUMBER: 4APN6-29-B2750-W2D-2700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.9	3.5
10°-20°	269.4	10.0
20°-30°	400.5	14.9
30°-40°	472.0	17.5
40°-50°	480.6	17.8
50°-60°	428.1	15.9
60°-70°	322.5	12.0
70°-80°	179.4	6.7
80°-90°	46.6	1.7
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°	764.7	28.4
0°-40°	1236.7	45.9
0°-60°	2145.5	79.6
0°-90°	2694.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2694.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1004	1004	1004	1004	1004	
5°	998	978	995	1028	998	95
15°	953	886	955	1031	953	269
25°	868	770	872	967	868	400
35°	754	652	758	858	754	472
45°	624	531	625	715	624	481
55°	478	403	482	551	478	429
65°	328	276	328	375	328	324
75°	170	142	168	192	170	181
85°	39	31	36	46	39	47
90°	0	0	0	0	0	



TEST NUMBER: P735598

CATALOG NUMBER: 4APN6-29-B2750-W2D-2700K

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5
2.5°	1001.1	1001.1	1002.2	997.7	992.0	989.7	988.6	987.4	989.7	990.8	989.7
5°	997.7	995.4	993.1	987.4	980.7	976.1	973.8	972.7	975.0	978.4	975.0
7.5°	990.8	986.3	981.7	973.8	965.9	959.0	955.6	953.3	955.6	959.0	956.7
10°	979.4	973.8	967.0	957.9	946.6	938.6	935.2	931.8	932.9	932.9	932.9
12.5°	968.1	960.2	952.3	940.9	928.3	919.2	913.6	909.1	911.3	912.5	912.5
15°	953.3	943.2	931.8	919.2	906.8	896.5	889.8	885.2	886.4	886.4	887.5
17.5°	935.2	923.8	912.5	897.7	882.9	871.5	863.6	858.0	860.1	861.3	862.4
20°	914.8	902.2	889.8	873.8	858.0	845.4	837.4	830.6	829.6	829.6	830.6
22.5°	893.1	879.5	864.7	847.7	830.6	817.0	809.0	802.2	801.1	801.1	802.2
25°	868.1	853.4	838.6	821.6	803.3	789.8	779.5	772.7	771.5	770.4	772.7
27.5°	842.0	827.3	812.5	795.5	776.1	762.5	752.2	745.4	743.1	742.0	744.3
30°	814.7	797.6	781.8	763.5	746.5	733.0	722.7	714.7	712.5	710.2	712.5
32.5°	785.2	768.1	751.1	733.0	715.9	702.3	692.0	684.1	681.8	680.6	682.9
35°	754.5	737.4	721.6	703.3	686.3	672.8	662.5	655.7	653.4	652.2	653.4
37.5°	723.8	706.9	690.9	672.8	655.7	642.1	631.8	625.0	623.8	622.7	623.8
40°	688.6	673.8	657.9	640.8	623.8	610.3	602.3	594.3	592.0	589.7	593.2
42.5°	657.9	643.1	627.3	611.3	594.3	580.6	571.6	564.8	562.5	561.3	562.5
45°	623.8	608.0	592.0	577.2	561.3	548.8	539.8	532.9	531.8	530.7	531.8
47.5°	587.5	573.9	560.2	545.5	529.5	517.0	509.1	502.3	500.0	497.7	500.0
50°	553.4	539.8	526.1	512.4	497.7	486.3	478.4	471.6	470.4	469.3	470.4
52.5°	517.0	503.4	490.9	477.3	464.7	453.3	445.5	439.8	438.6	437.5	438.6
55°	478.4	467.0	455.6	444.3	431.8	421.5	414.8	407.9	405.7	403.4	405.7
57.5°	442.0	431.8	420.5	409.1	397.7	388.7	381.8	376.1	375.0	373.8	375.0
60°	404.5	395.4	385.1	375.0	363.6	354.6	348.9	344.3	342.0	340.9	342.0
62.5°	367.0	358.0	350.0	339.7	329.5	322.6	317.0	312.5	310.2	309.1	310.2
65°	328.3	320.5	312.5	303.4	295.5	288.6	282.9	278.4	277.2	276.1	276.1
67.5°	288.6	281.8	275.0	267.0	258.0	251.1	245.4	242.0	240.9	239.7	240.9
70°	247.7	242.0	235.3	228.4	221.6	215.9	212.5	209.1	207.9	206.8	206.8
72.5°	209.1	204.5	198.9	193.2	187.5	181.8	178.4	176.1	175.1	173.8	173.8
75°	170.5	165.9	162.5	158.0	152.3	148.8	145.4	143.1	142.0	142.0	142.0
77.5°	134.1	130.7	127.3	122.7	119.3	115.9	113.6	112.6	111.3	111.3	111.3
80°	98.9	96.6	94.3	92.0	88.6	85.2	84.1	82.9	81.8	81.8	81.8
82.5°	67.1	65.9	63.6	61.4	59.1	57.9	56.8	55.7	55.7	55.7	55.7
85°	38.7	37.5	36.4	35.2	34.1	34.1	33.0	31.8	30.7	30.7	30.7
87.5°	16.0	16.0	16.0	14.7	13.7	13.7	13.7	13.7	13.7	13.7	13.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P735598

CATALOG NUMBER: 4APN6-29-B2750-W2D-2700K

CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5
2.5°	987.4	989.7	992.0	995.4	998.8	1002.2	1001.1	1000.0	1004.5	1010.2	1011.4
5°	972.7	975.0	978.4	984.0	989.7	994.3	995.4	995.4	1004.5	1012.5	1014.8
7.5°	954.6	957.9	962.4	968.1	976.1	983.0	986.3	990.8	1000.0	1010.2	1014.8
10°	931.8	937.5	944.3	952.3	960.2	968.1	975.0	980.7	992.0	1003.4	1010.2
12.5°	911.3	916.9	923.8	932.9	943.2	953.3	960.2	968.1	981.7	995.4	1003.4
15°	888.5	894.2	902.2	911.3	922.6	934.0	944.3	954.6	968.1	983.0	992.0
17.5°	863.6	869.3	877.2	888.5	901.1	913.6	924.9	936.3	952.3	968.1	978.4
20°	832.9	840.9	851.1	862.4	877.2	892.1	903.4	915.9	932.9	950.0	961.3
22.5°	803.3	811.3	822.7	836.3	852.3	868.1	881.8	895.4	913.6	930.6	943.2
25°	774.9	784.1	795.5	809.0	823.9	839.7	855.7	871.5	889.8	907.9	920.5
27.5°	746.5	754.5	765.8	779.5	796.5	812.5	828.3	844.3	863.6	882.9	896.5
30°	714.7	723.8	734.0	747.7	765.8	784.1	799.9	817.0	836.3	855.7	869.3
32.5°	685.2	693.2	703.3	717.0	735.1	753.4	770.4	788.6	806.8	826.0	839.7
35°	655.7	663.6	673.8	687.5	705.6	723.8	740.8	757.9	776.1	794.2	807.9
37.5°	626.1	634.1	644.4	657.9	674.9	693.2	709.0	726.1	744.3	762.5	774.9
40°	595.4	603.4	611.3	625.0	642.1	660.2	676.1	693.2	711.3	729.4	742.0
42.5°	564.8	572.7	582.9	596.6	612.4	628.4	644.4	660.2	677.2	694.3	706.9
45°	534.1	540.9	551.1	563.6	579.5	594.3	610.3	625.0	642.1	657.9	670.5
47.5°	502.3	509.1	517.0	529.5	545.5	561.3	577.2	592.0	606.7	622.7	634.1
50°	471.6	478.4	487.4	498.8	513.7	528.4	542.1	555.6	570.5	585.2	595.4
52.5°	439.8	446.6	454.5	465.9	478.4	492.0	504.5	518.1	531.8	545.5	555.6
55°	407.9	412.5	419.2	429.5	443.2	456.8	469.3	481.7	494.3	505.7	515.8
57.5°	376.1	381.8	389.7	398.8	410.2	421.5	432.9	444.3	455.6	467.0	476.1
60°	344.3	348.9	354.6	362.4	373.8	384.1	395.4	405.7	415.9	426.1	434.1
62.5°	311.3	315.9	321.6	329.5	338.6	347.7	358.0	367.0	376.1	385.1	393.1
65°	277.2	281.8	287.5	294.2	302.2	310.2	319.3	328.3	335.2	342.0	350.0
67.5°	242.0	246.6	252.3	258.0	264.7	272.7	280.7	288.6	295.5	302.2	307.9
70°	207.9	211.3	217.0	221.6	227.3	233.0	239.7	246.6	251.1	256.8	263.7
72.5°	175.1	178.4	182.9	187.5	190.9	195.5	202.2	207.9	213.6	220.5	223.9
75°	143.1	145.4	148.8	152.3	155.7	159.1	163.7	168.2	172.8	176.1	180.7
77.5°	111.3	113.6	117.0	119.3	121.6	123.9	127.3	130.7	134.1	136.4	141.0
80°	81.8	84.1	86.3	88.6	90.9	93.2	94.3	95.5	100.0	103.4	105.7
82.5°	55.7	56.8	57.9	60.2	61.4	62.5	63.6	63.6	65.9	68.2	71.6
85°	31.8	33.0	34.1	34.1	34.1	34.1	35.2	36.4	37.5	39.8	42.1
87.5°	12.4	12.4	13.7	13.7	13.7	13.7	13.7	13.7	14.7	17.0	18.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P735598

CATALOG NUMBER: 4APN6-29-B2750-W2D-2700K

CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5	1004.5
2.5°	1010.2	1011.4	1013.5	1014.8	1015.8	1015.8	1017.1	1018.1	1015.8	1013.5	1012.5
5°	1015.8	1017.1	1020.4	1023.8	1026.1	1028.4	1027.2	1026.1	1023.8	1020.4	1018.1
7.5°	1017.1	1020.4	1023.8	1028.4	1031.8	1036.3	1034.1	1031.8	1027.2	1022.7	1019.2
10°	1013.5	1018.1	1023.8	1029.5	1032.9	1036.3	1034.1	1031.8	1027.2	1021.5	1017.1
12.5°	1009.1	1014.8	1021.5	1027.2	1030.6	1035.2	1031.8	1028.4	1022.7	1017.1	1011.4
15°	998.8	1005.7	1013.5	1020.4	1026.1	1030.6	1027.2	1024.9	1018.1	1010.2	1002.2
17.5°	986.3	995.4	1003.4	1011.4	1015.8	1020.4	1018.1	1015.8	1007.9	998.8	989.7
20°	971.6	980.7	988.6	996.5	1002.2	1006.8	1003.4	1000.0	992.0	984.0	975.0
22.5°	953.3	962.4	971.6	979.4	985.1	989.7	985.1	979.4	971.6	963.6	954.6
25°	930.6	940.9	951.0	959.0	962.4	967.0	962.4	957.9	950.0	942.0	931.8
27.5°	907.9	918.2	928.3	936.3	939.7	944.3	939.7	935.2	927.2	919.2	909.1
30°	881.8	892.1	902.2	910.2	913.6	916.9	912.5	907.9	901.1	893.1	882.9
32.5°	852.3	862.4	870.4	878.4	882.9	887.5	882.9	879.5	871.5	861.3	851.1
35°	820.4	830.6	840.9	848.8	853.4	858.0	852.3	846.6	839.7	831.7	822.7
37.5°	785.2	796.5	807.9	817.0	820.4	825.0	820.4	814.7	807.9	799.9	789.8
40°	752.2	762.5	772.7	781.8	785.2	788.6	784.1	779.5	771.5	763.5	753.4
42.5°	718.2	728.4	737.4	745.4	748.8	753.4	748.8	743.1	737.4	730.7	721.6
45°	681.8	692.0	700.0	707.9	711.3	714.7	710.2	704.6	698.9	693.2	684.1
47.5°	644.4	653.4	661.4	669.2	671.5	674.9	670.5	667.1	661.4	655.7	647.7
50°	605.7	614.7	622.7	629.5	631.8	635.2	630.7	626.1	621.6	617.0	610.3
52.5°	565.9	573.9	581.8	588.6	590.9	593.2	588.6	584.0	579.5	575.0	568.2
55°	525.0	532.9	540.9	546.5	548.8	551.1	546.5	543.2	538.6	535.2	528.4
57.5°	484.0	492.0	498.8	504.5	506.8	509.1	504.5	500.0	496.6	493.1	487.4
60°	442.0	449.9	455.6	460.2	462.5	463.6	459.0	455.6	453.3	451.2	445.5
62.5°	401.1	406.8	412.5	415.9	418.2	419.2	415.9	413.6	411.4	409.1	404.5
65°	358.0	364.7	369.3	372.7	373.8	375.0	371.6	369.3	367.0	364.7	361.3
67.5°	314.8	320.5	323.9	327.2	328.3	328.3	328.3	327.2	324.9	321.6	318.2
70°	271.5	276.1	279.5	281.8	282.9	282.9	280.7	278.4	278.4	277.2	275.0
72.5°	227.3	230.7	233.0	235.3	235.3	235.3	235.3	236.3	235.3	233.0	229.6
75°	185.2	188.6	190.9	192.1	192.1	192.1	192.1	193.2	192.1	190.9	188.6
77.5°	145.4	147.7	148.8	150.0	150.0	150.0	151.1	152.3	151.1	150.0	148.8
80°	108.0	109.0	110.3	111.3	110.3	110.3	111.3	113.6	112.6	111.3	110.3
82.5°	73.9	74.9	76.2	76.2	77.2	78.5	78.5	78.5	78.5	77.2	76.2
85°	44.4	45.5	45.5	45.5	45.5	45.5	46.5	47.8	47.8	46.5	46.5
87.5°	20.4	21.6	20.4	19.3	18.1	18.1	20.4	22.7	22.7	21.6	21.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P735598

CATALOG NUMBER: 4APN6-29-B2750-W2D-2700K

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1004.5	1004.5	1004.5	1004.5
2.5°	1013.5	1012.5	1006.8	1001.1
5°	1017.1	1013.5	1005.7	997.7
7.5°	1017.1	1012.5	1001.1	990.8
10°	1011.4	1004.5	992.0	979.4
12.5°	1004.5	996.5	981.7	968.1
15°	994.3	985.1	969.3	953.3
17.5°	979.4	968.1	952.3	935.2
20°	964.7	952.3	932.9	914.8
22.5°	944.3	932.9	912.5	893.1
25°	921.5	909.1	888.5	868.1
27.5°	897.7	882.9	862.4	842.0
30°	870.4	855.7	835.2	814.7
32.5°	840.9	827.3	806.8	785.2
35°	811.3	796.5	776.1	754.5
37.5°	778.4	764.8	744.3	723.8
40°	743.1	729.4	709.0	688.6
42.5°	710.2	697.7	677.2	657.9
45°	673.8	661.4	642.1	623.8
47.5°	636.4	623.8	605.7	587.5
50°	600.0	587.5	570.5	553.4
52.5°	559.1	548.8	532.9	517.0
55°	519.3	509.1	493.1	478.4
57.5°	479.6	470.4	455.6	442.0
60°	437.5	428.4	417.1	404.5
62.5°	397.7	389.7	378.4	367.0
65°	355.7	348.9	338.6	328.3
67.5°	312.5	306.8	297.8	288.6
70°	269.3	262.4	255.7	247.7
72.5°	226.2	222.7	215.9	209.1
75°	185.2	181.8	176.1	170.5
77.5°	146.6	143.1	138.7	134.1
80°	108.0	105.7	102.3	98.9
82.5°	74.9	72.8	70.5	67.1
85°	45.5	43.2	40.9	38.7
87.5°	20.4	19.3	17.0	16.0
90°	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - - 90°-270° - · - · 135°-315°













(END OF REPORT)