



8165 E Kaiser Blvd. Anaheim, CA 92808
www.lightlaboratory.com

Report No: L071912301



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Issue Date: 7/17/2019

Report Prepared For: Vista Professional Outdoor Lighting
1625 Surveyor Ave., Simi Valley, CA 93063

Model Number: 1180-X-F-30-A-MV-ND

Test: Photometric/Colorimetric/Electrical Test

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Received in working and undamaged condition. No modifications were necessary.

Special Test Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 7/15/19

Date of Tests: 7/16/19 - 7/17/19

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S4	1/9/21
BK PRECISION	1747	PS-DC04	1/10/21
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/21
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

General Information

Manufacturer:	Vista Professional Outdoor Lighting
Model Number:	1180-X-F-30-A-MV-ND
Driver Model Number:	CUSTOM DRIVER

Test Summary

Total Lumens:	51.40
Efficacy:	3.76
Color Redering Index:	84.2
Correlated Color Temperature:	2880
Input Voltage (VAC/60Hz):	120.03
Input Current (Amp):	0.1183
Input Power (W):	13.67
Input Power Factor:	0.9634
Current ATHD (%):	18.6%

Test Condition

Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:30
Total Operating Time (Hours):	1:40

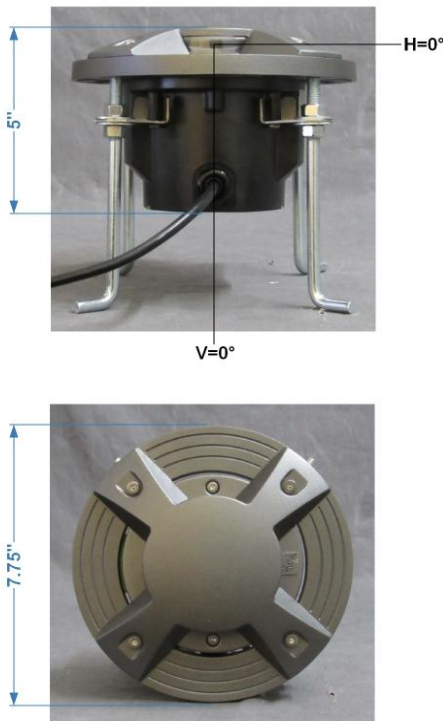
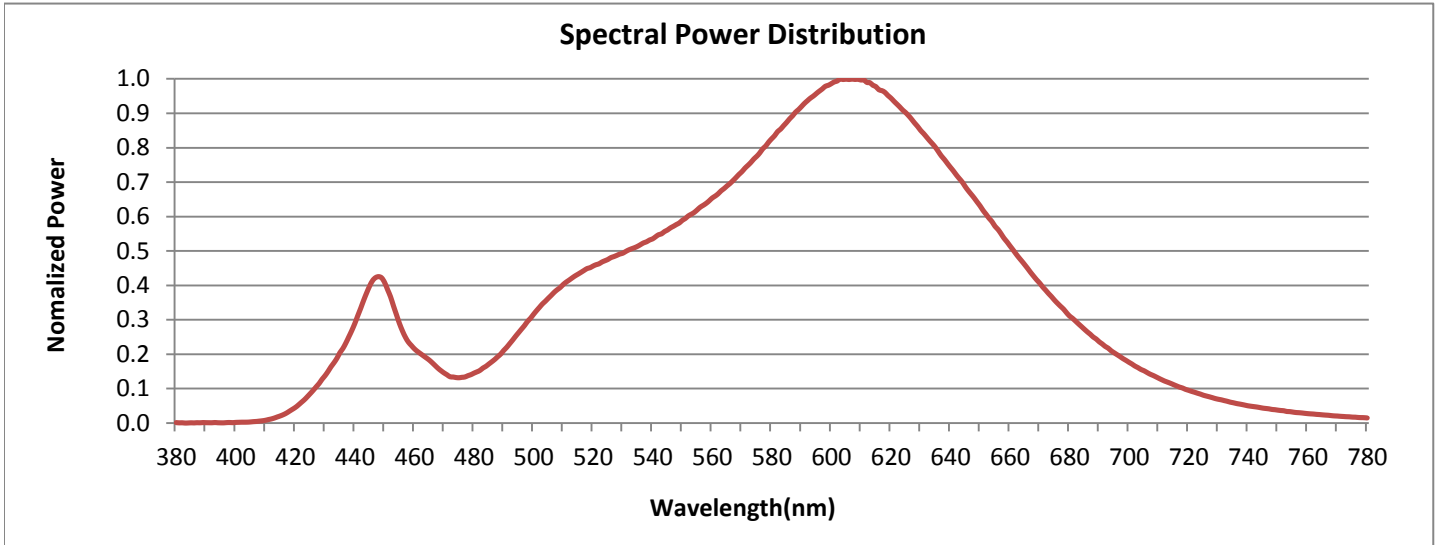


FIG. 1 LUMINAIRE

Colorimetry Test Results

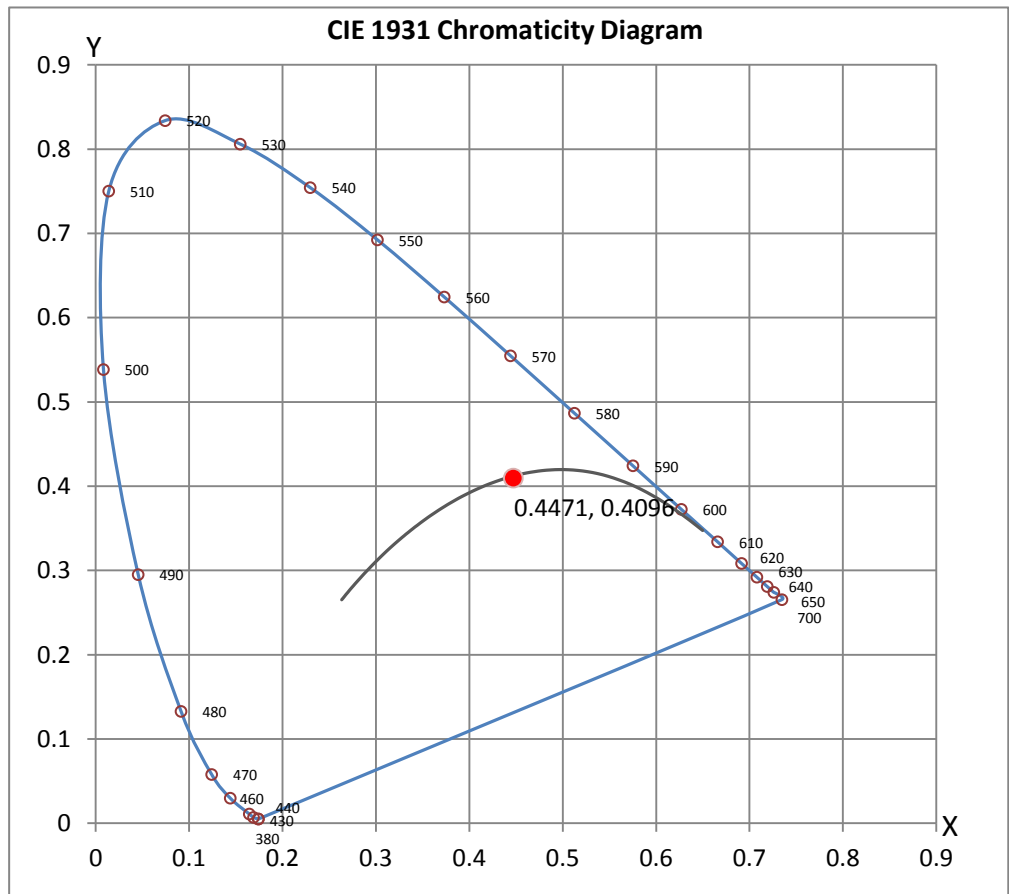


CRI & CCT

x	0.4471
y	0.4096
u'	0.2547
v'	0.5251
CRI	84.20
CCT	2880
Duv	0.00088

R Values

R1	82.48
R2	90.33
R3	97.51
R4	84.34
R5	83.16
R6	89.50
R7	84.53
R8	61.97
R9	13.99
R10	78.60
R11	84.96
R12	76.09
R13	84.09
R14	98.52
R15	74.86



Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Dennis Malonzo

Test Report Reviewed by:



Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 13*



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 www.lightlaboratory.com

Photometric Test Report

IES ROAD REPORT
PHOTOMETRIC FILENAME : L071912301.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] L071912301
 [TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)
 [ISSUEDATE] 7/17/2019
 [MANUFAC] Vista Professional Outdoor Lighting
 [LUMCAT] 1180-X-F-30-A-MV-ND
 [LUMINAIRE] Drive-Over Light, F-Full 360° Distribution
 [BALLASTCAT] CUSTOM DRIVER
 [OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
 [MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
 [INPUT] 120.03VAC, 13.67W
 [TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

IES Classification	N.A.
Longitudinal Classification	N.A.
Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	52
Downward Total Efficiency	N.A. (absolute)
Total Luminaire Efficiency	N.A. (absolute)
Luminaire Efficacy Rating (LER)	4
Total Luminaire Watts	13.67
Ballast Factor	1.00
Upward Waste Light Ratio	0.86
Maximum Candela	19.542
Maximum Candela Angle	90H 104V
Maximum Candela (<90 Degrees Vertical)	12.522
Maximum Candela Angle (<90 Degrees Vertical)	90H 89V
Maximum Candela At 90 Degrees Vertical	12.592 (24.2% Luminaire Lumens)
Maximum Candela from 80 to <90 Degrees Vertical	12.522 (24.1% Luminaire Lumens)
Cutoff Classification (deprecated)	N.A. (absolute)

IES ROAD REPORT
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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

ZONAL LUMEN SUMMARY

	Lumens	% Lamp	% Luminaire	Zone	%
FL - Front-Low (0-30)	0.0	N.A.	0.0		
FM - Front-Medium (30-60)	0.1	N.A.	0.2	0-20	0
FH - Front-High (60-80)	0.4	N.A.	0.7	0-30	0
FVH - Front-Very High (80-90)	3.3	N.A.	6.3	0-40	0
BL - Back-Low (0-30)	0.0	N.A.	0.0	0-60	0.3
BM - Back-Medium (30-60)	0.1	N.A.	0.2	0-80	1.8
BH - Back-High (60-80)	0.4	N.A.	0.7	0-90	14.5
BVH - Back-Very High (80-90)	3.3	N.A.	6.3	10-90	14.5
UL - Uplight-Low (90-100)	9.1	N.A.	17.6	20-40	0
UH - Uplight-High (100-180)	35.0	N.A.	67.7	20-50	0.1
				40-70	0.7
Total	51.7	N.A.	100.0	60-80	1.5
				70-80	1.2
BUG Rating	B0-U2-G0			80-90	12.7
				90-110	40.9
				90-120	58.8
				90-130	75.1
				90-150	83
				90-180	85.5
				110-180	44.6
				0-180	100

IES ROAD REPORT
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CANDELA TABULATION

Vert. Angles	Horizontal Angles									
	<u>0</u>	<u>5</u>	<u>10</u>	<u>15</u>	<u>20</u>	<u>25</u>	<u>30</u>	<u>35</u>	<u>40</u>	<u>45</u>
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.105	0.114	0.122	0.140	0.148	0.175	0.192	0.201	0.210	0.210
55	0.140	0.122	0.140	0.140	0.157	0.175	0.175	0.192	0.210	0.210
60	0.122	0.122	0.131	0.140	0.166	0.166	0.175	0.192	0.192	0.201
62	0.140	0.122	0.140	0.140	0.157	0.175	0.175	0.192	0.192	0.183
64	0.140	0.131	0.131	0.140	0.157	0.166	0.183	0.192	0.192	0.201
66	0.140	0.131	0.140	0.140	0.157	0.175	0.175	0.192	0.192	0.210
68	0.140	0.131	0.140	0.157	0.157	0.166	0.175	0.192	0.192	0.210
70	0.140	0.148	0.148	0.157	0.166	0.175	0.192	0.192	0.192	0.210
71	0.140	0.131	0.140	0.166	0.157	0.183	0.175	0.192	0.192	0.210
72	0.140	0.157	0.140	0.157	0.166	0.183	0.192	0.201	0.192	0.210
73	0.140	0.157	0.157	0.166	0.157	0.183	0.192	0.201	0.192	0.201
74	0.175	0.175	0.183	0.183	0.183	0.183	0.192	0.201	0.192	0.210
75	0.227	0.227	0.236	0.236	0.236	0.218	0.218	0.218	0.210	0.210
76	0.437	0.437	0.419	0.393	0.367	0.332	0.297	0.262	0.244	0.227
77	0.821	0.821	0.786	0.725	0.672	0.576	0.480	0.402	0.341	0.288
78	1.450	1.432	1.362	1.275	1.144	0.961	0.812	0.655	0.498	0.419
79	2.253	2.209	2.113	1.939	1.738	1.493	1.240	1.013	0.786	0.664
80	3.283	3.240	3.082	2.820	2.497	2.174	1.773	1.467	1.196	1.013
81	4.785	4.715	4.453	4.113	3.598	3.065	2.524	2.043	1.703	1.450
82	7.283	7.152	6.715	6.112	5.292	4.357	3.545	2.803	2.183	1.825
83	9.867	9.649	9.142	8.182	6.977	5.667	4.279	3.248	2.471	1.860
84	10.653	10.478	9.937	8.915	7.387	5.912	4.445	3.187	2.366	1.825
85	10.321	10.182	9.588	8.680	7.344	5.632	4.183	3.056	2.227	1.764
86	10.234	10.094	9.623	8.680	7.230	5.623	4.043	2.925	2.061	1.720
87	10.478	10.339	9.867	8.889	7.326	5.676	3.956	2.847	2.069	1.729
88	11.299	11.142	10.522	9.535	7.946	6.016	4.357	3.056	2.235	1.930
89	11.876	11.683	11.072	10.016	8.374	6.287	4.637	3.318	2.349	2.104
90	12.382	12.155	11.526	10.199	8.549	6.697	4.707	3.362	2.480	2.227
91	12.784	12.557	11.858	10.636	8.802	6.767	4.907	3.423	2.515	2.288
92	12.993	12.801	12.007	10.810	9.108	6.855	4.977	3.554	2.550	2.375
93	13.028	12.810	12.138	10.845	9.038	7.047	5.056	3.589	2.689	2.454
94	12.958	12.714	12.024	10.740	8.942	7.082	5.161	3.606	2.768	2.550
95	13.046	12.845	12.015	10.819	9.151	7.029	5.187	3.720	2.890	2.681
96	13.412	13.150	12.461	11.160	9.343	7.195	5.396	3.964	3.004	2.777
97	13.919	13.701	12.993	11.483	9.666	7.710	5.519	4.069	3.205	2.899
98	14.635	14.390	13.491	12.164	10.077	7.902	5.877	4.226	3.327	3.013
99	15.526	15.264	14.242	12.792	10.688	8.226	6.156	4.514	3.432	3.117
100	16.416	16.049	15.133	13.377	11.238	8.889	6.392	4.689	3.685	3.275
102	18.302	17.866	16.835	15.002	12.487	9.631	7.256	5.335	4.043	3.667
104	19.385	19.071	17.840	16.093	13.578	10.522	7.937	5.920	4.514	4.104
106	19.141	18.826	17.665	16.032	13.517	10.636	8.103	6.069	4.872	4.427
108	18.163	17.787	16.905	15.333	12.993	10.374	7.833	6.069	4.864	4.497
110	16.643	16.355	15.508	14.224	12.120	9.448	7.370	5.781	4.707	4.418
112	15.281	15.098	14.364	13.238	11.413	8.933	6.863	5.370	4.549	4.270
114	14.093	13.910	13.273	12.251	10.417	8.295	6.348	4.986	4.296	4.052
116	13.430	13.229	12.757	11.780	10.007	7.999	6.025	4.654	4.043	3.851

IES ROAD REPORT
PHOTOMETRIC FILENAME : L071912301.IES

CANDELA TABULATION - (Cont.)

118	13.412	13.264	12.888	11.910	10.251	8.042	5.632	4.366	3.807	3.667
120	15.281	15.202	14.897	14.120	12.347	9.204	5.929	4.261	3.598	3.458
125	16.713	16.547	16.067	15.089	12.827	9.562	6.601	4.331	3.222	3.004
130	11.579	11.483	11.186	10.487	8.994	7.108	4.986	3.248	2.436	2.174
135	4.244	4.174	4.060	3.798	3.405	2.864	2.297	1.956	1.808	1.729
140	2.323	2.340	2.349	2.314	2.227	2.096	1.912	1.764	1.668	1.624
150	1.607	1.607	1.615	1.624	1.624	1.624	1.633	1.642	1.650	1.659
160	1.554	1.554	1.563	1.580	1.607	1.615	1.633	1.659	1.668	1.677
170	1.327	1.345	1.353	1.362	1.380	1.388	1.406	1.423	1.432	1.450
180	1.120	1.120	1.120	1.120	1.120	1.120	1.120	1.120	1.120	1.120

Vert. Horizontal Angles

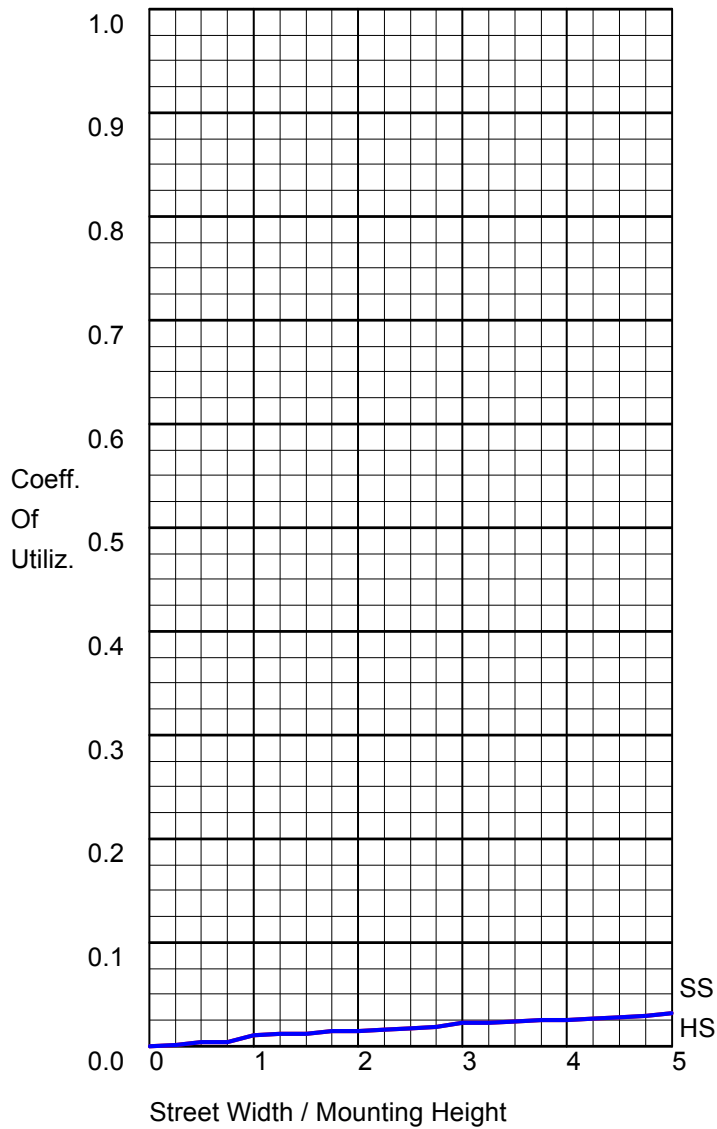
	<u>50</u>	<u>55</u>	<u>60</u>	<u>65</u>	<u>70</u>	<u>75</u>	<u>80</u>	<u>85</u>	<u>90</u>
0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
35	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
50	0.210	0.201	0.192	0.175	0.148	0.140	0.122	0.122	0.105
55	0.210	0.192	0.175	0.175	0.157	0.140	0.140	0.122	0.122
60	0.192	0.192	0.175	0.175	0.157	0.140	0.140	0.122	0.140
62	0.192	0.192	0.175	0.175	0.148	0.140	0.140	0.122	0.140
64	0.192	0.192	0.175	0.175	0.157	0.140	0.140	0.122	0.140
66	0.192	0.192	0.175	0.175	0.166	0.140	0.140	0.148	0.140
68	0.192	0.192	0.175	0.175	0.157	0.140	0.140	0.131	0.140
70	0.192	0.192	0.192	0.175	0.166	0.157	0.157	0.157	0.140
71	0.192	0.192	0.192	0.175	0.157	0.157	0.140	0.148	0.140
72	0.192	0.192	0.192	0.175	0.166	0.157	0.148	0.157	0.140
73	0.192	0.201	0.183	0.175	0.157	0.157	0.157	0.157	0.140
74	0.192	0.201	0.201	0.201	0.210	0.210	0.201	0.183	0.192
75	0.218	0.218	0.227	0.244	0.253	0.262	0.253	0.253	0.244
76	0.236	0.271	0.306	0.332	0.367	0.367	0.367	0.375	0.384
77	0.323	0.393	0.480	0.585	0.672	0.742	0.786	0.812	0.821
78	0.498	0.655	0.803	0.969	1.170	1.284	1.371	1.423	1.432
79	0.768	1.004	1.231	1.476	1.746	1.965	2.113	2.200	2.253
80	1.196	1.441	1.764	2.157	2.515	2.847	3.109	3.231	3.266
81	1.703	2.035	2.532	3.082	3.641	4.156	4.480	4.724	4.785
82	2.227	2.812	3.554	4.427	5.353	6.165	6.724	7.134	7.248
83	2.497	3.283	4.401	5.903	7.326	8.610	9.719	10.356	10.636
84	2.349	3.196	4.541	6.130	7.859	9.457	10.601	11.212	11.421
85	2.227	3.109	4.235	5.816	7.745	9.134	10.129	10.793	10.933
86	2.131	2.951	4.095	5.772	7.510	9.055	10.059	10.540	10.723
87	2.157	2.925	4.174	5.964	7.841	9.457	10.487	10.976	11.125
88	2.314	3.222	4.637	6.488	8.662	10.295	11.343	12.024	12.190
89	2.419	3.440	4.838	6.628	8.854	10.574	11.675	12.295	12.522
90	2.506	3.379	4.776	6.828	8.854	10.444	11.753	12.365	12.592
91	2.506	3.388	4.864	6.759	8.915	10.697	11.876	12.557	12.801
92	2.550	3.528	4.925	6.837	9.081	10.802	11.980	12.757	12.958
93	2.698	3.554	4.960	7.073	8.994	10.810	12.076	12.740	12.993
94	2.786	3.554	5.073	6.977	8.977	10.767	12.076	12.792	13.028
95	2.908	3.755	5.134	6.977	9.151	10.740	11.972	12.854	13.098
96	3.021	3.938	5.361	7.352	9.352	11.212	12.557	13.316	13.622
97	3.231	4.052	5.527	7.824	9.850	11.736	13.290	14.120	14.373

IES ROAD REPORT
PHOTOMETRIC FILENAME : L071912301.IES

CANDELA TABULATION - (Cont.)

98	3.336	4.244	5.920	8.042	10.417	12.504	13.989	14.932	15.194
99	3.458	4.549	6.252	8.531	11.029	13.255	14.748	15.822	16.102
100	3.729	4.741	6.488	9.238	11.640	13.989	15.665	16.573	16.958
102	4.113	5.423	7.405	10.129	12.888	15.438	17.228	18.215	18.617
104	4.584	5.981	7.990	10.618	13.701	16.198	17.936	19.193	19.542
106	4.864	6.069	8.051	10.540	13.517	15.857	17.464	18.625	18.948
108	4.934	6.025	7.745	10.313	12.740	14.993	16.547	17.403	17.761
110	4.724	5.746	7.265	9.326	11.753	13.779	15.045	15.805	16.102
112	4.549	5.449	6.741	8.671	11.107	12.740	13.805	14.504	14.687
114	4.305	4.977	6.278	8.068	10.155	11.788	12.723	13.316	13.517
116	4.069	4.672	5.964	7.841	9.640	11.168	12.068	12.513	12.714
118	3.851	4.410	5.588	7.929	10.042	11.395	12.268	12.618	12.731
120	3.615	4.279	5.833	9.142	11.989	13.823	14.574	14.897	15.071
125	3.152	4.252	6.383	9.151	12.312	14.233	15.168	15.744	15.945
130	2.366	3.135	4.733	6.811	8.645	9.955	10.627	10.889	10.950
135	1.764	1.886	2.122	2.532	2.908	3.205	3.362	3.440	3.458
140	1.624	1.668	1.746	1.851	1.991	2.061	2.069	2.078	2.078
150	1.659	1.650	1.624	1.615	1.589	1.589	1.580	1.572	1.572
160	1.685	1.677	1.685	1.677	1.677	1.650	1.642	1.633	1.624
170	1.458	1.458	1.458	1.467	1.458	1.467	1.450	1.441	1.450
180	1.120	1.120	1.120	1.120	1.120	1.120	1.120	1.120	1.120

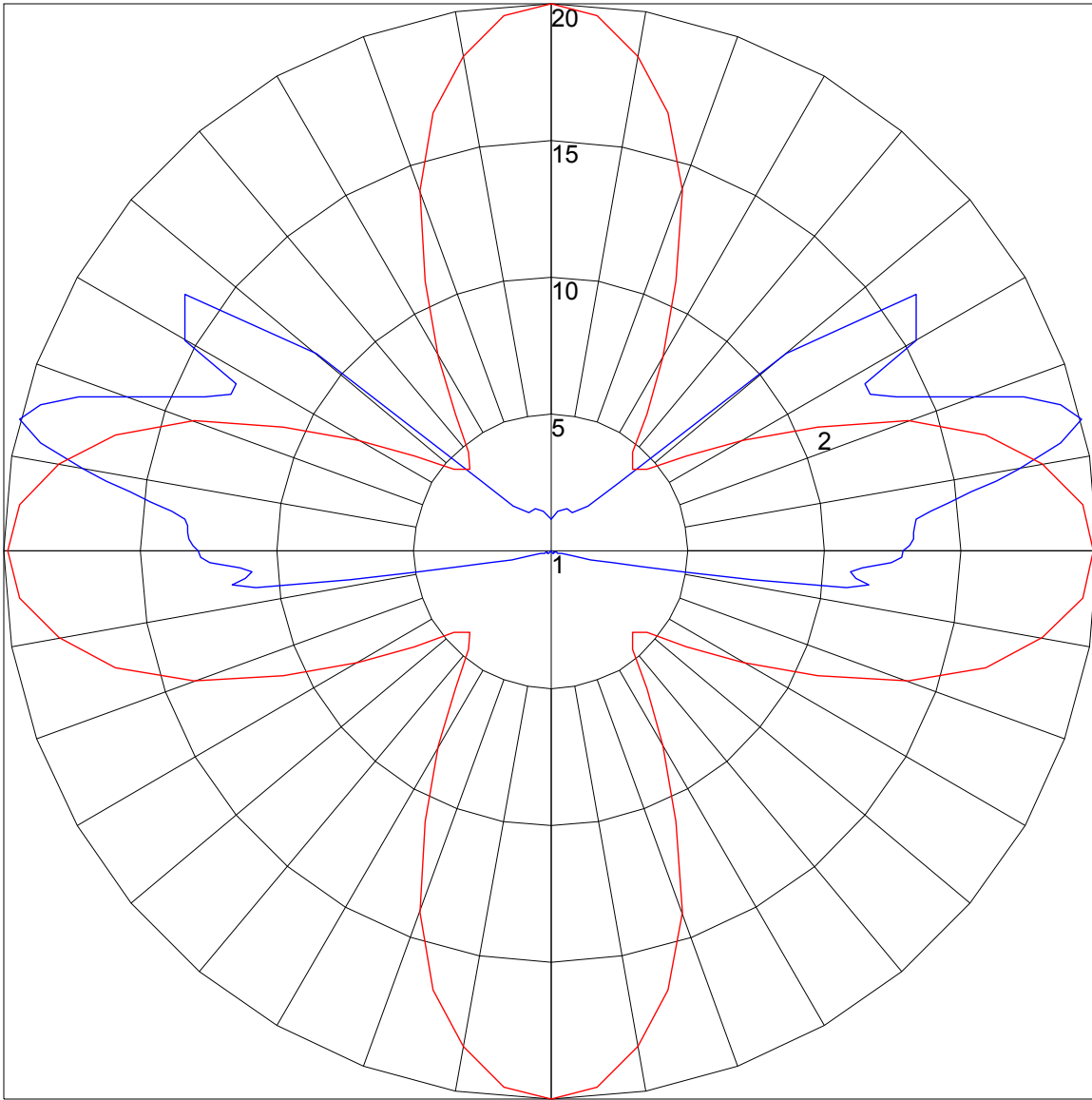
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

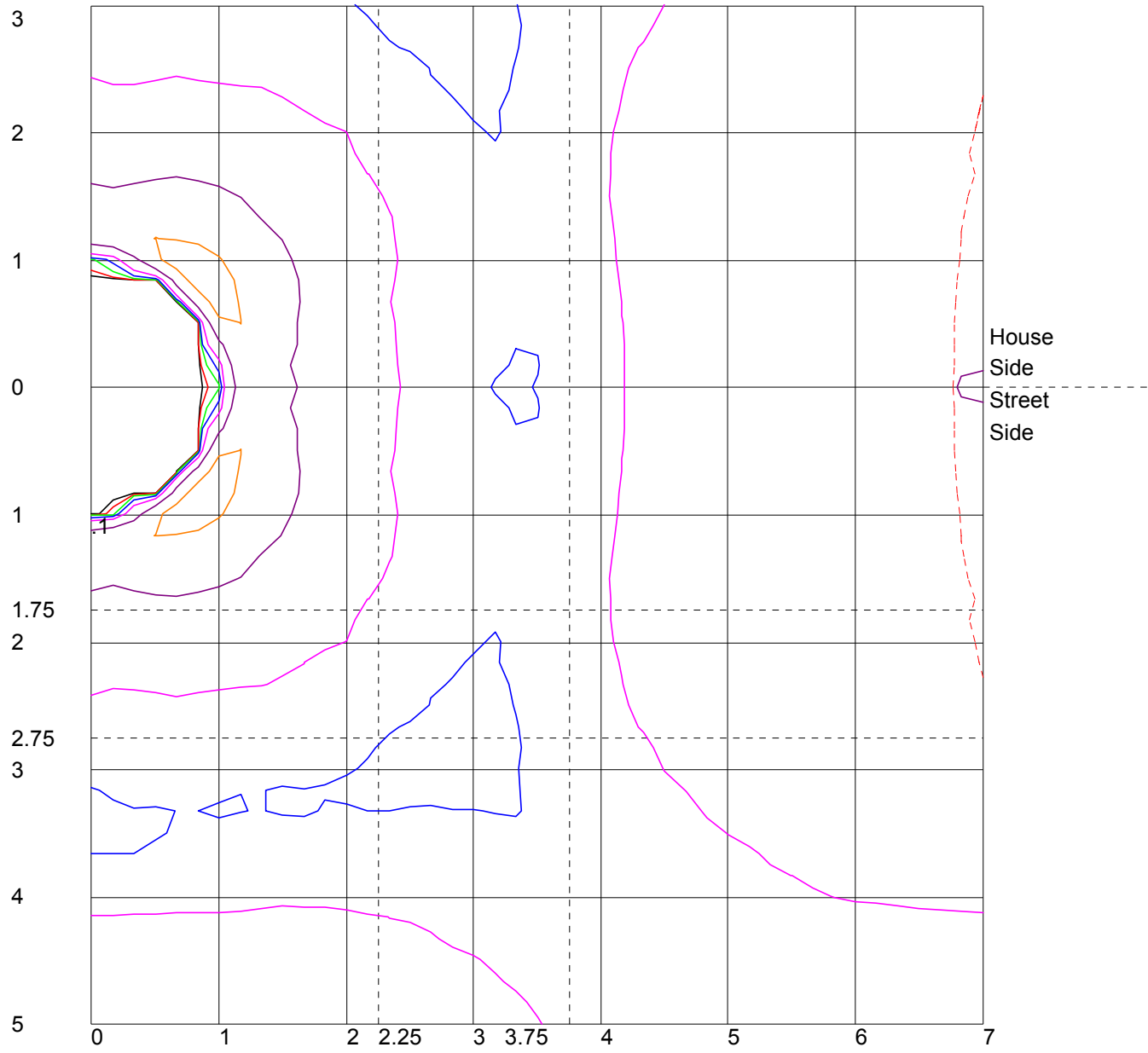
	Lumens	Percent Of Luminaire
Downward Street Side	3.7	7.2
Downward House Side	3.7	7.2
Downward Total	7.4	14.3
Upward Street Side	22.0	42.8
Upward House Side	22.0	42.8
Upward Total	44.0	85.3
Total Flux	51.4	99.7

POLAR GRAPH



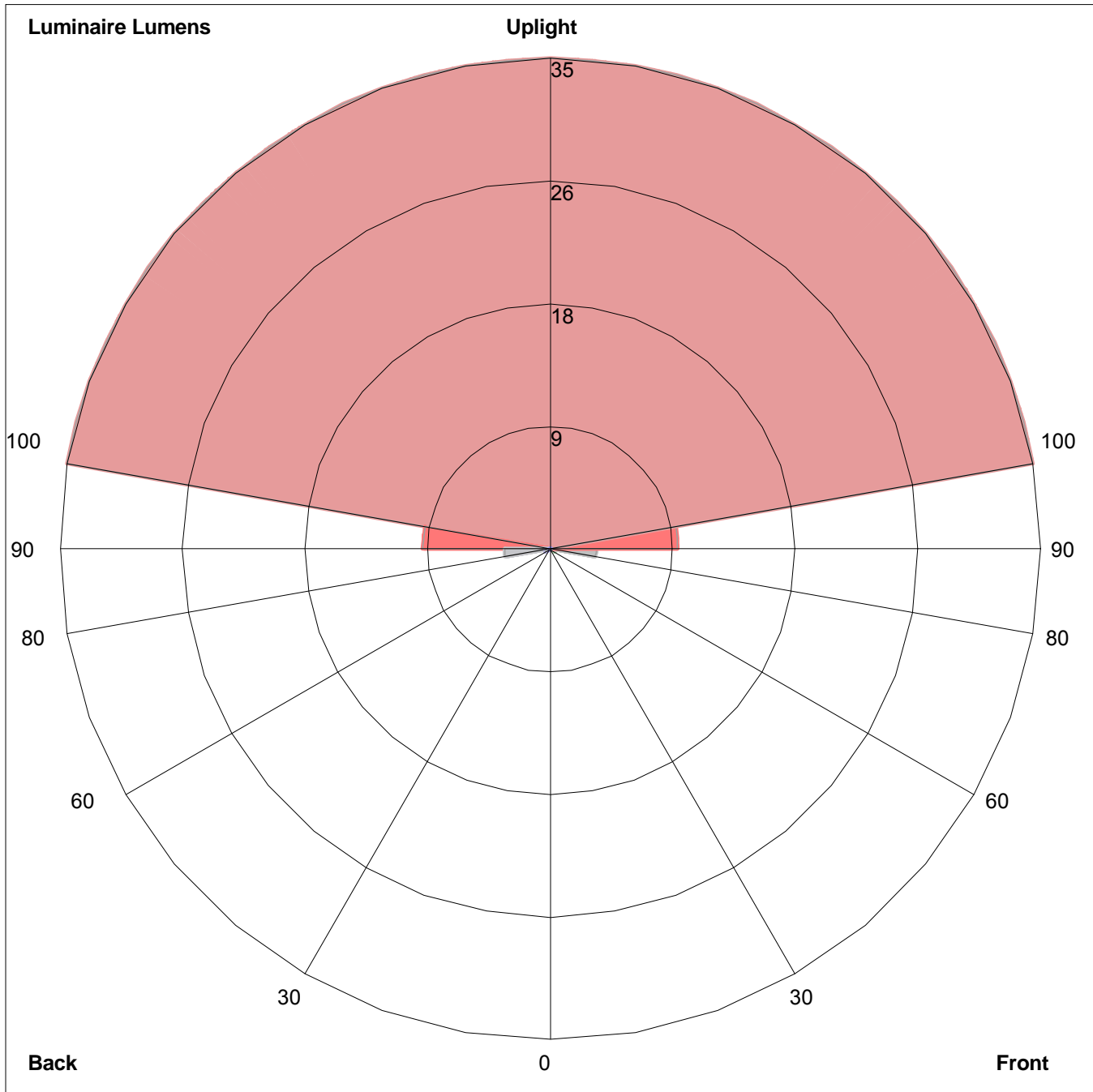
Maximum Candela = 19.542 Located At Horizontal Angle = 90, Vertical Angle = 104
1 - Vertical Plane Through Horizontal Angles (90 - 270) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (104) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



Distance In Units Of Mounting Height
Values Based On .0625 Foot Mounting Height
1/2 Maximum Candela Trace Shown As Dashed Curve
(+) = Maximum Candela Point

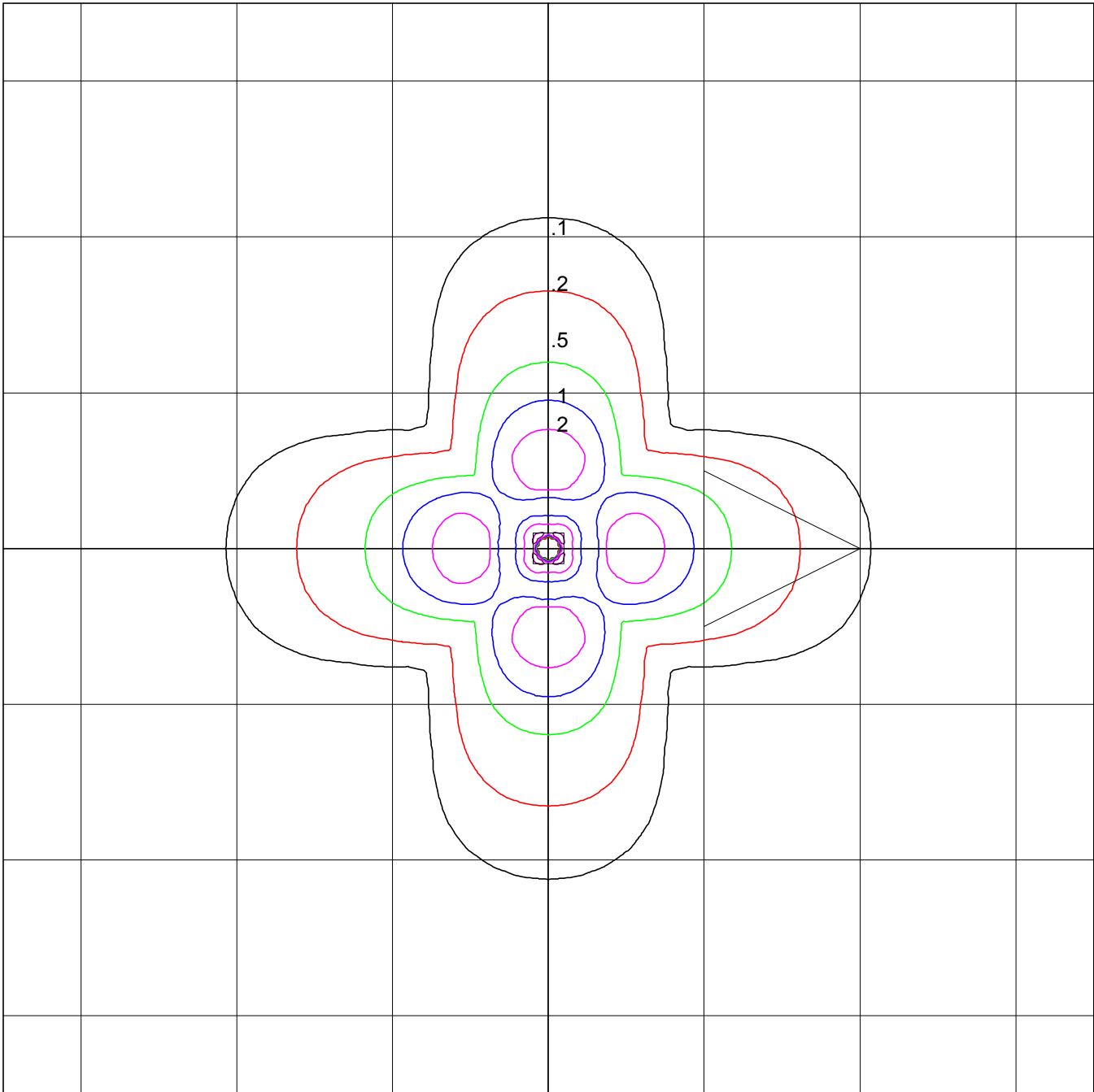
LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=0.0, Medium=0.1, High=0.4, Very High=3.3
Back: Low=0.0, Medium=0.1, High=0.4, Very High=3.3
Uplight: Low=9.1, High=35.0

BUG Rating : B0-U2-G0

Photometric Test Report



Vista Professional Outdoor Lighting
1180-X-F-30-A-MV-ND
Drive-Over Light, F-Full 360° Distribution

Horizontal Footcandles
Scale: 1 Inch = 1 Ft.
Light Loss Factor = 1.00
Lumens Per Lamp = N.A. (absolute photometry)
Luminaire Lumens = 52
Mounting Height = 0.08 Ft
Maximum Calculated Value = 7.73 Fc
Arrangement: Single