



IES ROAD REPORT

PHOTOMETRIC FILENAME : HLN-FT-LED-32L-50.IES

DESCRIPTIVE INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST]LED-8460

[TESTLAB]LSI INDUSTRIES, INC

[ISSUE DATE]01/16/17

[TEST DATE]01/16/17

[MANUFACT]LSI INDUSTRIES, INC

[LUMCAT]HLN-FT-LED-32L-50

[_ABSOLUTE]NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

[OTHER]TEST PROCEDURE: IESNA LM-79-08

CHARACTERISTICS

| | |
|---|-------------------------------|
| IES Classification | Type IV |
| Longitudinal Classification | Short |
| Lumens Per Lamp | N.A. (absolute) |
| Total Lamp Lumens | N.A. (absolute) |
| Luminaire Lumens | 33446 |
| Downward Total Efficiency | N.A. (absolute) |
| Total Luminaire Efficiency | N.A. (absolute) |
| Luminaire Efficacy Rating (LER) | 108 |
| Total Luminaire Watts | 310 |
| Ballast Factor | 1.00 |
| Upward Waste Light Ratio | 0.00 |
| Maximum Candela | 19678 |
| Maximum Candela Angle | 42.5H 70V |
| Maximum Candela (<90 Degrees Vertical) | 19678 |
| Maximum Candela Angle (<90 Degrees Vertical) | 42.5H 70V |
| Maximum Candela At 90 Degrees Vertical | 0 (0.0% Luminaire Lumens) |
| Maximum Candela from 80 to <90 Degrees Vertical | 7564 (22.6% Luminaire Lumens) |
| Cutoff Classification (deprecated) | N.A. (absolute) |

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LUMINAIRE CLASSIFICATION SYSTEM (LCS)

| | Lumens | % Lamp | % Luminaire |
|-------------------------------|----------|--------|-------------|
| FL - Front-Low (0-30) | 2103.4 | N.A. | 6.3 |
| FM - Front-Medium (30-60) | 10173.7 | N.A. | 30.4 |
| FH - Front-High (60-80) | 11620.3 | N.A. | 34.7 |
| FVH - Front-Very High (80-90) | 709.0 | N.A. | 2.1 |
| BL - Back-Low (0-30) | 2067.2 | N.A. | 6.2 |
| BM - Back-Medium (30-60) | 4841.5 | N.A. | 14.5 |
| BH - Back-High (60-80) | 1799.1 | N.A. | 5.4 |
| BVH - Back-Very High (80-90) | 131.6 | N.A. | 0.4 |
| UL - Uplight-Low (90-100) | 0.0 | N.A. | 0.0 |
| UH - Uplight-High (100-180) | 0.0 | N.A. | 0.0 |
| Total | 33445.8 | N.A. | 100.0 |
| BUG Rating | B3-U0-G4 | | |

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CANDELA TABULATION

| Vert. Angles | Horizontal Angles | | | | | | | | | |
|-------------------------|--------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | <u>0.0</u> | <u>5.0</u> | <u>15.0</u> | <u>25.0</u> | <u>35.0</u> | <u>42.5</u> | <u>45.0</u> | <u>55.0</u> | <u>65.0</u> | <u>75.0</u> |
| 0.0 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 |
| 2.5 | 4852 | 4703 | 4704 | 4714 | 4716 | 4569 | 4715 | 4709 | 4713 | 4703 |
| 5.0 | 4822 | 4681 | 4682 | 4699 | 4711 | 4577 | 4719 | 4726 | 4739 | 4738 |
| 7.5 | 4711 | 4586 | 4601 | 4634 | 4681 | 4581 | 4725 | 4757 | 4786 | 4796 |
| 10.0 | 4597 | 4483 | 4502 | 4553 | 4614 | 4557 | 4696 | 4775 | 4846 | 4873 |
| 12.5 | 4521 | 4424 | 4451 | 4512 | 4582 | 4540 | 4673 | 4784 | 4900 | 4969 |
| 15.0 | 4488 | 4408 | 4434 | 4508 | 4592 | 4575 | 4691 | 4815 | 4954 | 5070 |
| 17.5 | 4514 | 4448 | 4478 | 4552 | 4644 | 4648 | 4749 | 4868 | 5007 | 5157 |
| 20.0 | 4600 | 4545 | 4587 | 4656 | 4739 | 4762 | 4838 | 4943 | 5076 | 5234 |
| 22.5 | 4730 | 4690 | 4735 | 4807 | 4885 | 4923 | 4961 | 5045 | 5159 | 5312 |
| 25.0 | 4923 | 4892 | 4936 | 5002 | 5079 | 5135 | 5135 | 5176 | 5257 | 5389 |
| 27.5 | 5185 | 5166 | 5201 | 5249 | 5317 | 5398 | 5358 | 5343 | 5373 | 5465 |
| 30.0 | 5510 | 5499 | 5531 | 5552 | 5614 | 5714 | 5633 | 5555 | 5508 | 5535 |
| 32.5 | 5878 | 5871 | 5900 | 5907 | 5946 | 6076 | 5962 | 5838 | 5669 | 5610 |
| 35.0 | 6263 | 6259 | 6293 | 6299 | 6329 | 6498 | 6347 | 6177 | 5887 | 5714 |
| 37.5 | 6682 | 6676 | 6719 | 6771 | 6762 | 6948 | 6783 | 6597 | 6187 | 5864 |
| 40.0 | 7149 | 7133 | 7211 | 7257 | 7251 | 7459 | 7275 | 7098 | 6551 | 6050 |
| 42.5 | 7690 | 7689 | 7746 | 7814 | 7855 | 8076 | 7842 | 7728 | 7010 | 6317 |
| 45.0 | 8354 | 8273 | 8350 | 8464 | 8547 | 8786 | 8522 | 8419 | 7566 | 6643 |
| 47.5 | 9063 | 9009 | 9052 | 9236 | 9375 | 9657 | 9450 | 9252 | 8227 | 7096 |
| 50.0 | 9937 | 9922 | 10029 | 10197 | 10370 | 10664 | 10468 | 10225 | 9048 | 7750 |
| 52.5 | 10820 | 10850 | 11066 | 11394 | 11580 | 11852 | 11646 | 11385 | 10104 | 8486 |
| 55.0 | 11552 | 11636 | 11988 | 12592 | 12957 | 13234 | 12997 | 12858 | 11168 | 9238 |
| 57.5 | 12000 | 12190 | 12725 | 13670 | 14324 | 14680 | 14503 | 14300 | 12420 | 10019 |
| 60.0 | 12275 | 12438 | 13151 | 14424 | 15810 | 16579 | 16260 | 15984 | 13498 | 10691 |
| 62.5 | 12236 | 12377 | 13238 | 14837 | 17074 | 18032 | 17813 | 17405 | 14321 | 11071 |
| 65.0 | 11916 | 12022 | 13027 | 15106 | 17644 | 19034 | 18903 | 18289 | 14730 | 10956 |
| 67.5 | 11619 | 11788 | 12767 | 15092 | 17965 | 19586 | 19526 | 18589 | 14647 | 10123 |
| 70.0 | 11371 | 11394 | 12576 | 15154 | 18215 | 19678 | 19651 | 18008 | 13210 | 8082 |
| 72.5 | 10492 | 10178 | 11420 | 14578 | 18258 | 18668 | 19038 | 15877 | 10197 | 4921 |
| 75.0 | 8074 | 7659 | 9231 | 12435 | 16583 | 16429 | 17125 | 12378 | 6094 | 2264 |
| 77.5 | 4216 | 3865 | 5825 | 8641 | 12449 | 12412 | 13005 | 7443 | 2497 | 1255 |
| 80.0 | 1870 | 1825 | 2880 | 4653 | 6629 | 7114 | 7564 | 3650 | 1434 | 849 |
| 82.5 | 970 | 988 | 1903 | 2883 | 3241 | 3590 | 3766 | 1755 | 955 | 556 |
| 85.0 | 619 | 664 | 1291 | 1946 | 2237 | 1995 | 1964 | 843 | 590 | 342 |
| 87.5 | 407 | 440 | 859 | 1223 | 1594 | 785 | 573 | 387 | 301 | 203 |
| 90.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Vert. Angles | Horizontal Angles | | | | | | | | | |
|-------------------------|--------------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | <u>85.0</u> | <u>90.0</u> | <u>95.0</u> | <u>105.0</u> | <u>115.0</u> | <u>125.0</u> | <u>135.0</u> | <u>145.0</u> | <u>155.0</u> | <u>165.0</u> |
| 0.0 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 | 4679 |
| 2.5 | 4700 | 4702 | 4689 | 4685 | 4681 | 4673 | 4661 | 4664 | 4647 | 4634 |
| 5.0 | 4739 | 4740 | 4727 | 4716 | 4704 | 4693 | 4675 | 4677 | 4656 | 4641 |
| 7.5 | 4804 | 4805 | 4787 | 4766 | 4747 | 4725 | 4697 | 4690 | 4669 | 4654 |
| 10.0 | 4891 | 4887 | 4872 | 4830 | 4799 | 4761 | 4730 | 4727 | 4723 | 4712 |
| 12.5 | 4997 | 4998 | 4968 | 4904 | 4850 | 4802 | 4784 | 4795 | 4789 | 4788 |
| 15.0 | 5111 | 5115 | 5073 | 4979 | 4904 | 4853 | 4836 | 4847 | 4833 | 4825 |
| 17.5 | 5224 | 5226 | 5175 | 5050 | 4948 | 4893 | 4875 | 4872 | 4850 | 4838 |
| 20.0 | 5348 | 5341 | 5279 | 5118 | 4987 | 4922 | 4891 | 4880 | 4852 | 4836 |
| 22.5 | 5450 | 5449 | 5382 | 5173 | 5020 | 4935 | 4894 | 4871 | 4838 | 4824 |
| 25.0 | 5539 | 5543 | 5466 | 5211 | 5034 | 4934 | 4879 | 4847 | 4815 | 4809 |
| 27.5 | 5605 | 5620 | 5537 | 5232 | 5028 | 4918 | 4849 | 4808 | 4779 | 4786 |

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CANDELA TABULATION - (Cont.)

| | | | | | | | | | | |
|------|------|------|------|------|------|------|------|------|------|------|
| 30.0 | 5650 | 5668 | 5581 | 5224 | 4995 | 4882 | 4797 | 4752 | 4732 | 4755 |
| 32.5 | 5680 | 5695 | 5611 | 5192 | 4939 | 4823 | 4725 | 4679 | 4676 | 4731 |
| 35.0 | 5719 | 5717 | 5632 | 5148 | 4851 | 4742 | 4632 | 4585 | 4615 | 4729 |
| 37.5 | 5750 | 5724 | 5628 | 5073 | 4744 | 4636 | 4513 | 4468 | 4562 | 4834 |
| 40.0 | 5811 | 5746 | 5624 | 4970 | 4606 | 4499 | 4352 | 4325 | 4577 | 4967 |
| 42.5 | 5891 | 5761 | 5594 | 4845 | 4426 | 4332 | 4169 | 4159 | 4755 | 4846 |
| 45.0 | 6022 | 5816 | 5584 | 4704 | 4218 | 4135 | 3958 | 4025 | 4782 | 4477 |
| 47.5 | 6293 | 5965 | 5631 | 4576 | 3985 | 3909 | 3731 | 3946 | 4598 | 4022 |
| 50.0 | 6639 | 6133 | 5677 | 4414 | 3727 | 3670 | 3491 | 3862 | 4287 | 3674 |
| 52.5 | 7009 | 6332 | 5737 | 4254 | 3453 | 3424 | 3245 | 3706 | 3913 | 3387 |
| 55.0 | 7429 | 6572 | 5809 | 4097 | 3168 | 3177 | 3021 | 3480 | 3495 | 3119 |
| 57.5 | 7804 | 6776 | 5843 | 3919 | 2881 | 2903 | 2813 | 3219 | 3096 | 2809 |
| 60.0 | 8040 | 6862 | 5742 | 3729 | 2618 | 2658 | 2606 | 2899 | 2688 | 2568 |
| 62.5 | 8046 | 6680 | 5304 | 3482 | 2355 | 2418 | 2391 | 2548 | 2350 | 2360 |
| 65.0 | 7605 | 6048 | 4401 | 3113 | 2081 | 2178 | 2123 | 2269 | 2023 | 2191 |
| 67.5 | 6507 | 4728 | 3176 | 2522 | 1778 | 1894 | 1902 | 2003 | 1742 | 2041 |
| 70.0 | 4485 | 3114 | 2098 | 1835 | 1446 | 1557 | 1665 | 1740 | 1497 | 1873 |
| 72.5 | 2295 | 1540 | 1217 | 1209 | 1114 | 1240 | 1394 | 1461 | 1261 | 1637 |
| 75.0 | 1100 | 808 | 725 | 817 | 803 | 924 | 1128 | 1155 | 1015 | 1310 |
| 77.5 | 704 | 528 | 467 | 552 | 590 | 690 | 865 | 776 | 672 | 861 |
| 80.0 | 484 | 371 | 336 | 408 | 457 | 529 | 581 | 473 | 398 | 544 |
| 82.5 | 309 | 244 | 238 | 308 | 357 | 299 | 333 | 334 | 247 | 372 |
| 85.0 | 199 | 149 | 157 | 225 | 193 | 184 | 217 | 165 | 130 | 233 |
| 87.5 | 108 | 69 | 88 | 109 | 99 | 101 | 108 | 88 | 66 | 109 |
| 90.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Vert. Horizontal Angles
Angles

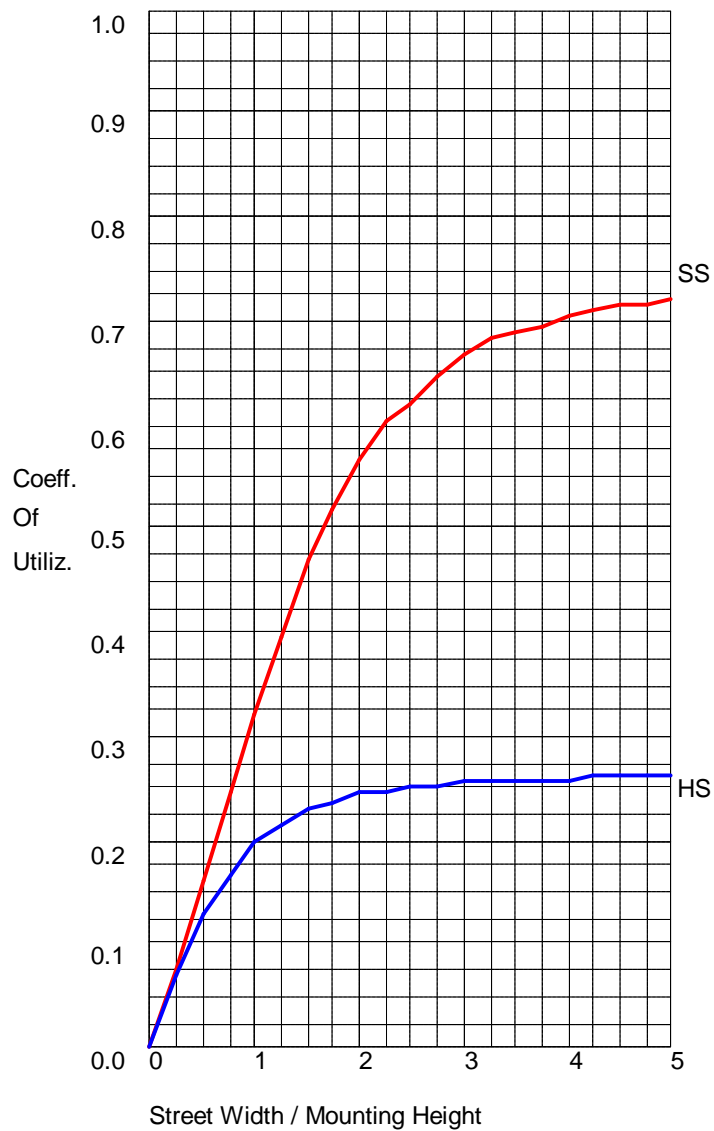
| | <u>175.0</u> | <u>180.0</u> |
|------|--------------|--------------|
| 0.0 | 4679 | 4679 |
| 2.5 | 4617 | 4619 |
| 5.0 | 4620 | 4622 |
| 7.5 | 4636 | 4636 |
| 10.0 | 4707 | 4706 |
| 12.5 | 4779 | 4776 |
| 15.0 | 4816 | 4809 |
| 17.5 | 4828 | 4820 |
| 20.0 | 4827 | 4816 |
| 22.5 | 4819 | 4809 |
| 25.0 | 4813 | 4802 |
| 27.5 | 4801 | 4791 |
| 30.0 | 4788 | 4778 |
| 32.5 | 4784 | 4778 |
| 35.0 | 4815 | 4817 |
| 37.5 | 4951 | 4937 |
| 40.0 | 4833 | 4781 |
| 42.5 | 4416 | 4326 |
| 45.0 | 3981 | 3912 |
| 47.5 | 3677 | 3625 |
| 50.0 | 3413 | 3362 |
| 52.5 | 3157 | 3107 |
| 55.0 | 2876 | 2838 |
| 57.5 | 2571 | 2490 |
| 60.0 | 2357 | 2277 |
| 62.5 | 2176 | 2103 |
| 65.0 | 2037 | 1964 |

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CANDELA TABULATION - (Cont.)

| | | |
|-------------|------|------|
| 67.5 | 1936 | 1857 |
| 70.0 | 1858 | 1786 |
| 72.5 | 1748 | 1698 |
| 75.0 | 1474 | 1434 |
| 77.5 | 1154 | 1143 |
| 80.0 | 958 | 983 |
| 82.5 | 746 | 780 |
| 85.0 | 512 | 593 |
| 87.5 | 289 | 386 |
| 90.0 | 0 | 0 |

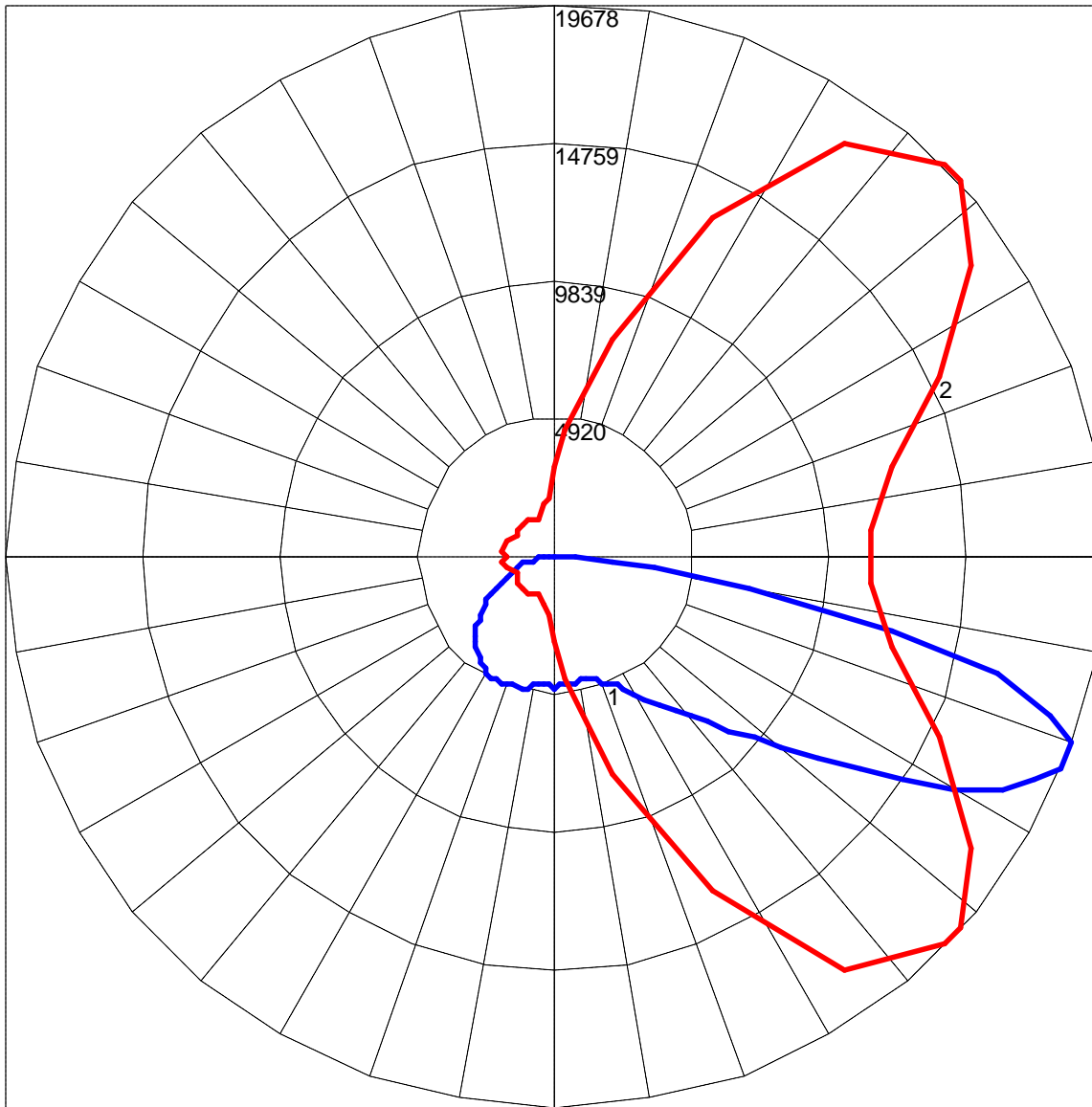
COEFFICIENTS OF UTILIZATION



FLUX DISTRIBUTION

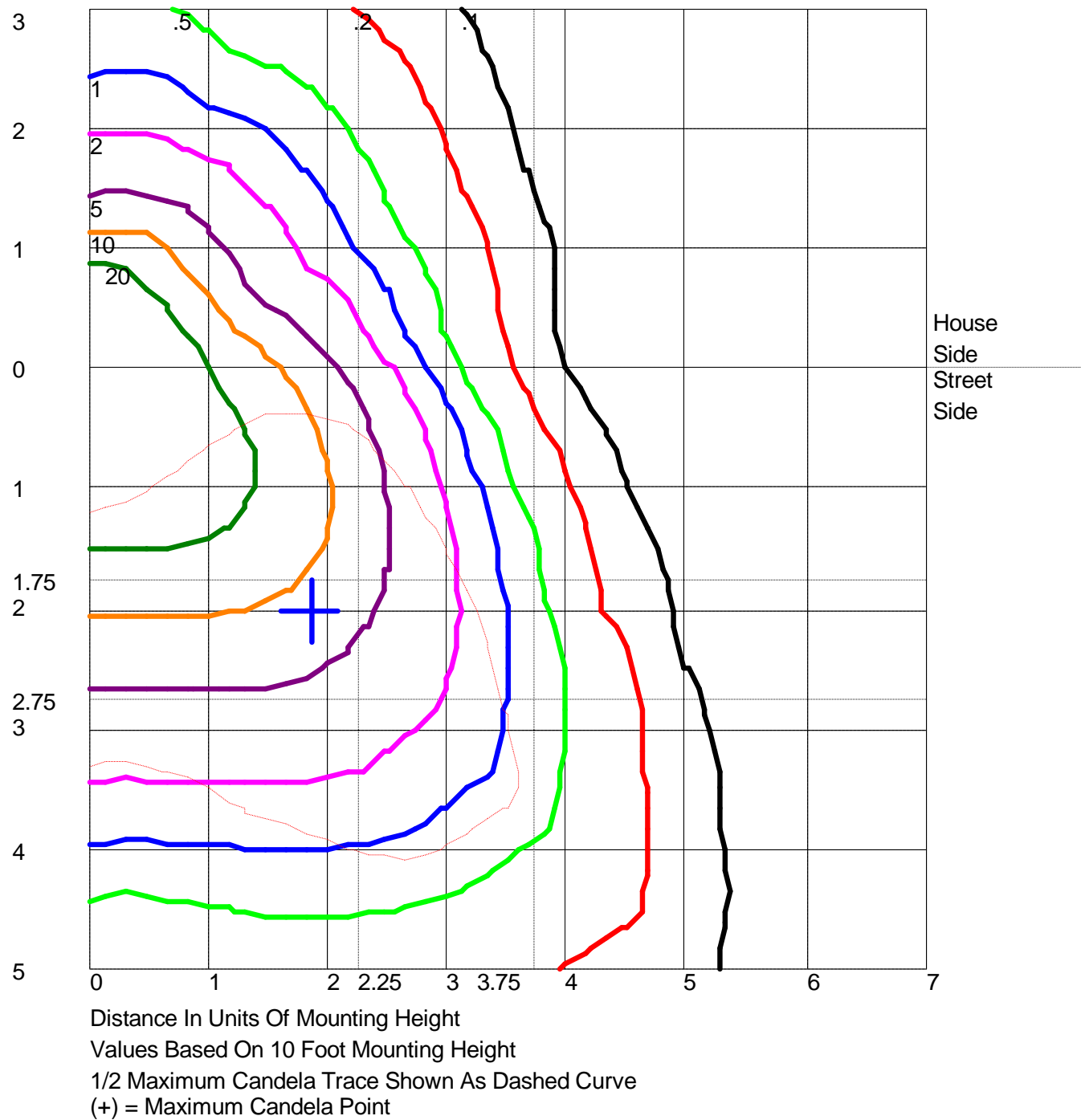
| | Lumens | Percent Of Luminaire |
|----------------------|---------|-------------------------|
| Downward Street Side | 24606.3 | 73.6 |
| Downward House Side | 8839.3 | 26.4 |
| Downward Total | 33445.6 | 100.0 |
| Upward Street Side | 0.0 | 0.0 |
| Upward House Side | 0.0 | 0.0 |
| Upward Total | 0.0 | 0.0 |
| Total Flux | 33445.6 | 100.0 |

POLAR GRAPH

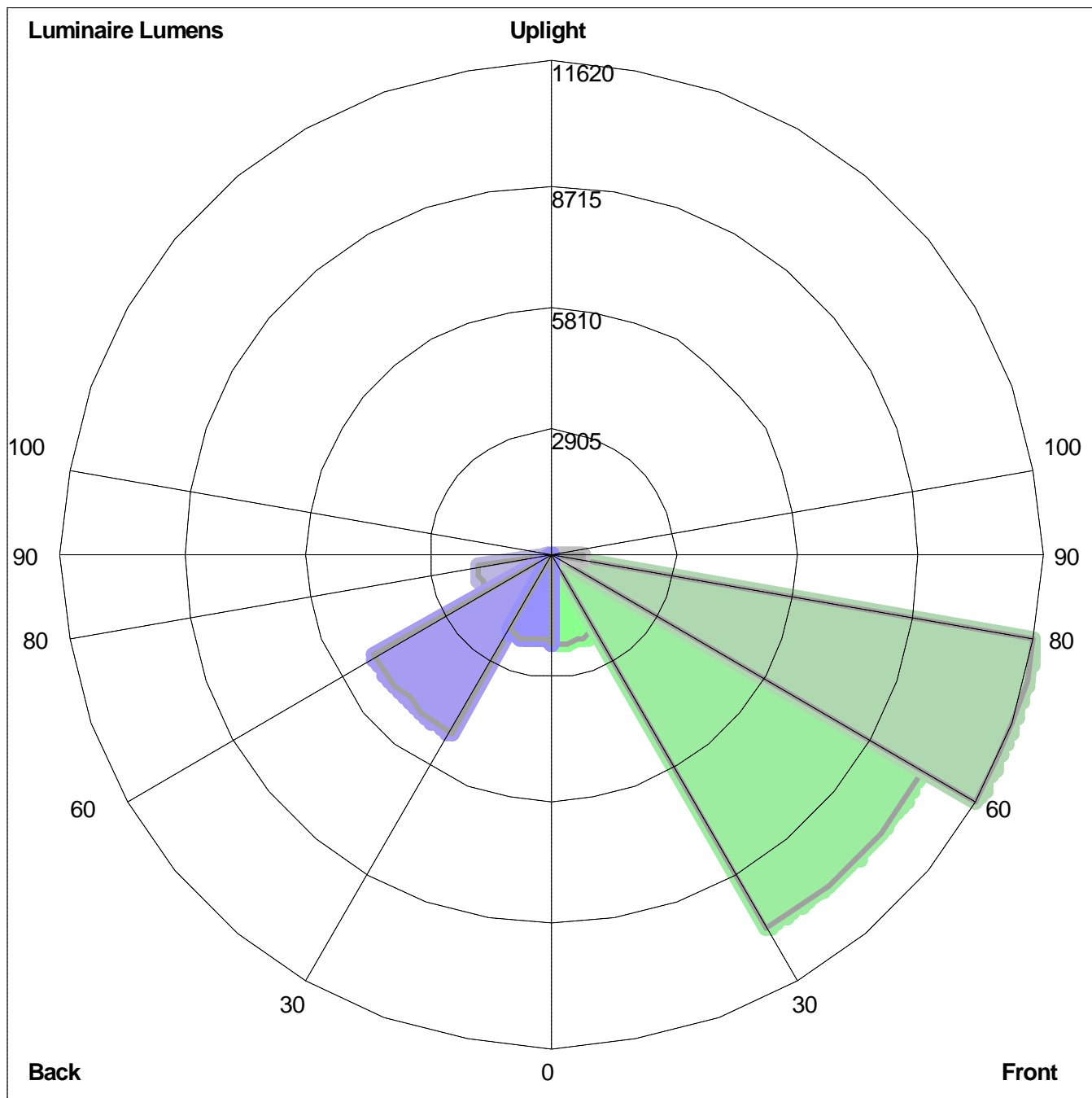


Maximum Candela = 19678 Located At Horizontal Angle = 42.5, Vertical Angle = 70
1 - Vertical Plane Through Horizontal Angles (42.5 - 222.5) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (70) (Through Max. Cd.)

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINANCE



LUMINAIRE CLASSIFICATION SYSTEM (LCS) GRAPH



Luminaire Lumens:
Front: Low=2103.4, Medium=10173.7, High=11620.3, Very High=709.0
Back: Low=2067.2, Medium=4841.5, High=1799.1, Very High=131.6
Uplight: Low=0.0, High=0.0

BUG Rating : B3-U0-G4