

REPORT NUMBER: ITL85361

ISSUE DATE: 08/12/15

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PREPARED FOR: LED ROADWAY LIGHTING LTD.

CATALOG NUMBER: NXT 36S 0 X 2ES 5 XX 3 XX X XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY PAINTED INTERIOR FINISH, 1 WHITE CIRCUIT BOARD WITH 36 LEDS, 1 CLEAR PLASTIC LENS WITH 1 OPTIC PER LED, CLEAR FLAT GLASS LENS IN CAST GRAY PAINTED METAL DOOR FRAME.

LAMPS: THIRTY-SIX WHITE LIGHT EMITTING DIODES (LEDs), VERTICAL BASE-UP POSITION.

INPUT ELECTRICAL: 120.0 VOLTS, 59.7 WATTS, 0.502 AMPS

LED DRIVER: LED ROADWAY LIGHTING J100UN, DRIVER HAS MULTIPLE LEADS, ONLY LINE INPUT AND LED OUTPUT LEADS CONNECTED FOR THIS TEST, OUTPUT CURRENT ROTARY SWITCH SET TO 525mA. LRL65633-LF SURGE PROTECTOR.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE DRIVER AND SURGE PROTECTOR. SURGE PROTECTOR INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

TOTAL LUMEN OUTPUT: 6759

COLOR TEMPERATURE AS MEASURED IN INTEGRATING SPHERE TEST # ITL85369: 3772K

COLOR RENDERING INDEX AS MEASURED IN INTEGRATING SPHERE TEST # ITL85369: 73

LED DC DRIVE CURRENT (mA): 525 (PROVIDED BY CLIENT)

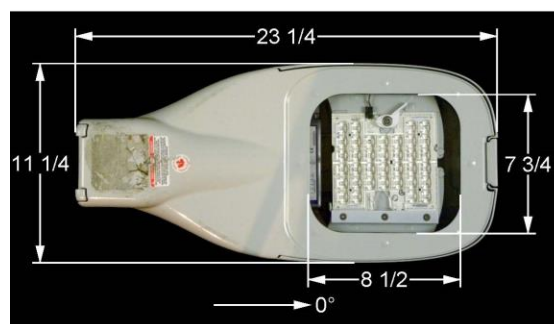
POWER FACTOR: 99.1 %

BUG RATING: B2 U0 G2

LUMINAIRE EFFICACY: 113.2 lm/W

IES CLASSIFICATION: Medium, Type II

\*\*CUTOFF DESIGNATION IS NOT INTENDED TO BE USED WITH ABSOLUTE PHOTOMETRIC TESTS.



#### FLUX DISTRIBUTION

| LUMENS      | DOWNWARD | UPWARD | TOTALS |
|-------------|----------|--------|--------|
| HOUSE SIDE  | 2223     | 0      | 2223   |
| STREET SIDE | 4537     | 0      | 4537   |
| TOTALS      | 6759     | 0      | 6759   |

TESTING WAS PERFORMED IN ACCORDANCE WITH IESNA LM-79-08  
TEST ANGULAR INCREMENTS AND REPORT FORMATTING WAS BASED ON IESNA LM-31-95

THIS REPORT IS BASED ON PUBLISHED INDUSTRY PROCEDURES. FIELD PERFORMANCE MAY DIFFER FROM LABORATORY PERFORMANCE.



**itl boulder**  
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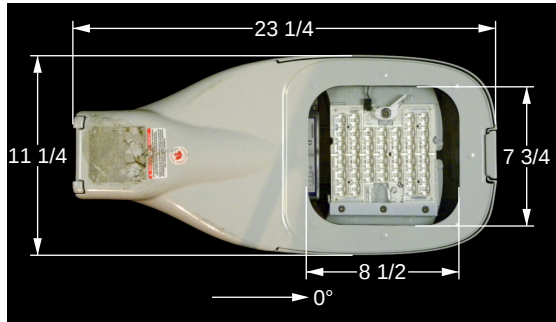
**NVLAP**  
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.

4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

## ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 30 foot mounting height.



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CATALOG NUMBER: NXT 36S 0 X 2ES 5 XX 3

XX X XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY

PAINTED INTERIOR FINISH, 1 WHITE

CIRCUIT BOARD WITH 36 LEDs, 1 CLEAR

PLASTIC LENS WITH 1 OPTIC PER LED,

CLEAR FLAT GLASS LENS IN CAST GRAY

PAINTED METAL DOOR FRAME.

LAMPS: THIRTY-SIX WHITE LIGHT EMITTING

DIODES (LEDs), VERTICAL BASE-UP POSITION.

INPUT ELECTRICAL: 120.0 VOLTS, 59.7

WATTS, 0.502 AMPS

LED DRIVER: LED ROADWAY LIGHTING J100UN,

DRIVER HAS MULTIPLE LEADS, ONLY LINE

INPUT AND LED OUTPUT LEADS CONNECTED

FOR THIS TEST, OUTPUT CURRENT ROTARY

SWITCH SET TO 525mA. LRL65633-LF SURGE

PROTECTOR.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE

SAMPLE PROVIDED AT RATED INPUT VOLTAGE

(120VAC, 60Hz) TO THE DRIVER AND SURGE

PROTECTOR. SURGE PROTECTOR INFORMATION

PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

IES Classification: Medium, Type II

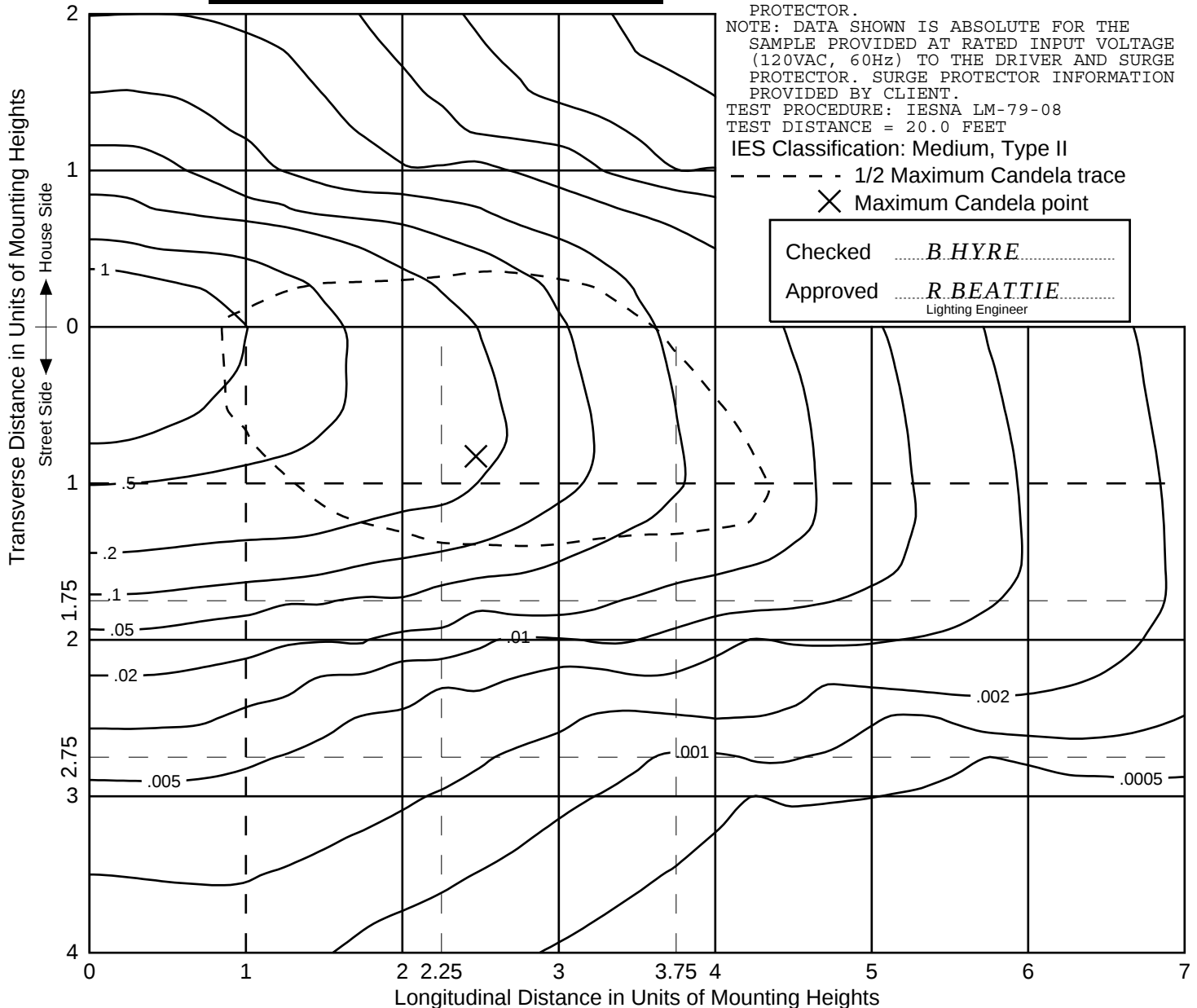
--- 1/2 Maximum Candela trace

X Maximum Candela point

Checked ..... *B. HYRE* .....

Approved ..... *R. BEATTIE* .....

Lighting Engineer



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CATALOG NUMBER: NXT 36S 0 X 2ES 5 XX 3  
XX X XX X

LUMINAIRE: CAST METAL HOUSING WITH GRAY  
PAINTED INTERIOR FINISH, 1 WHITE  
CIRCUIT BOARD WITH 36 LEDS, 1 CLEAR  
PLASTIC LENS WITH 1 OPTIC PER LED,  
CLEAR FLAT GLASS LENS IN CAST GRAY  
PAINTED METAL DOOR FRAME.

LAMPS: THIRTY-SIX WHITE LIGHT EMITTING  
DIODES (LEDs), VERTICAL BASE-UP  
POSITION.

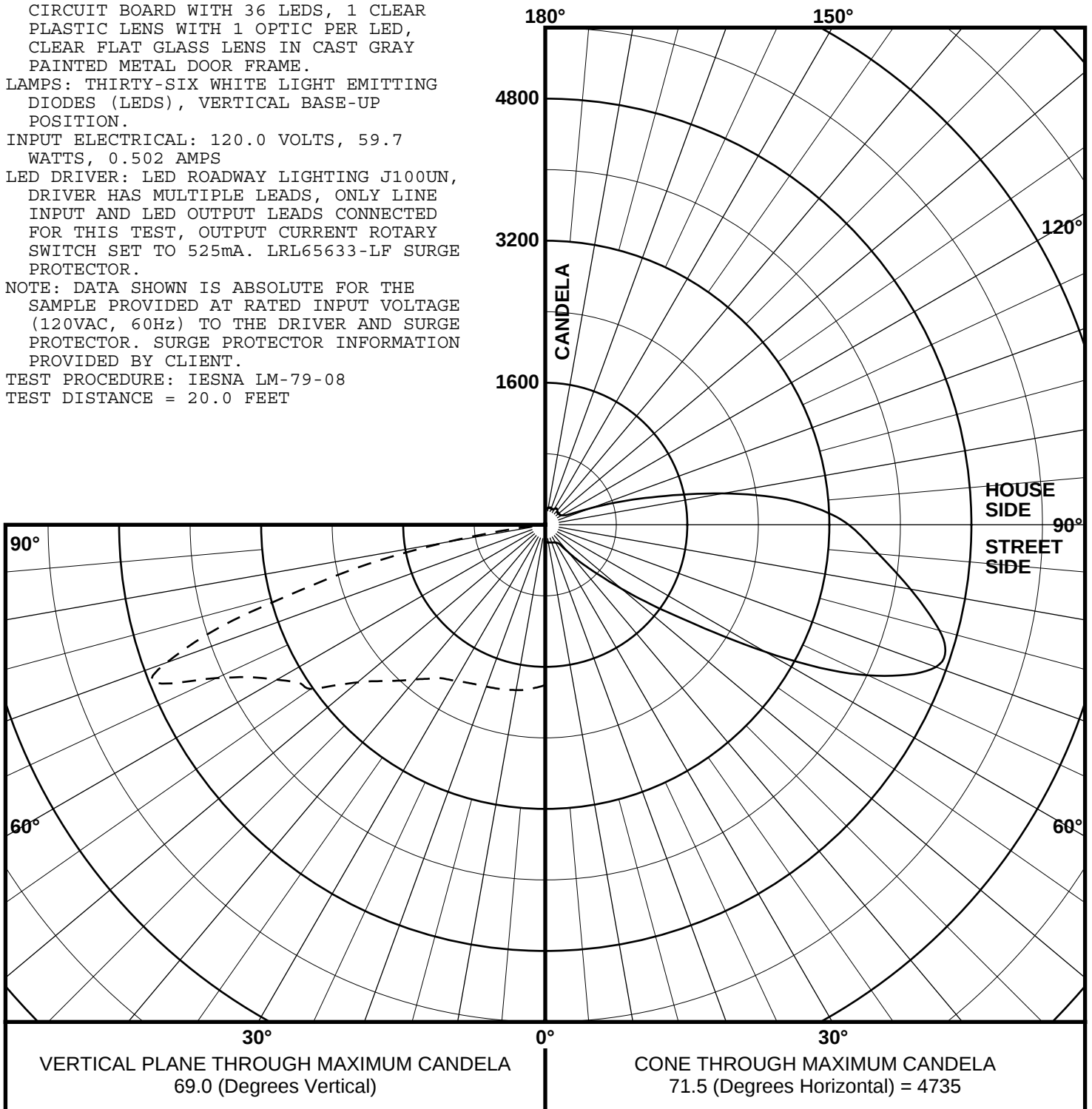
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(120VAC, 60Hz) TO THE DRIVER AND SURGE  
PROTECTOR. SURGE PROTECTOR INFORMATION  
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TEST PROCEDURE: IESNA LM-79-08  
TEST DISTANCE = 20.0 FEET

# MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

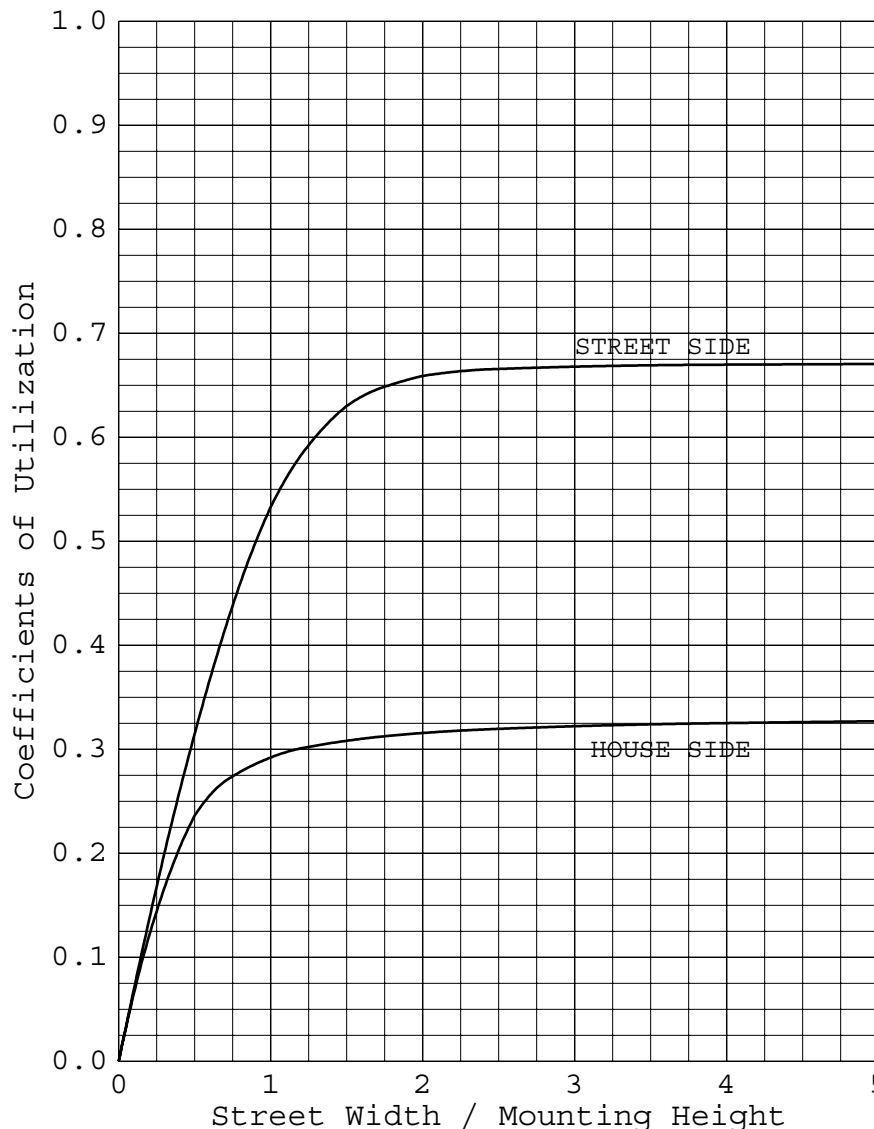




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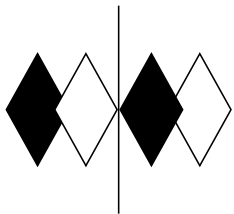
COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



|                         | LUMENS | PERCENT<br>OF FIXTURE |
|-------------------------|--------|-----------------------|
| DOWNWARD<br>STREET SIDE | 4537   | 67.1                  |
| DOWNWARD<br>HOUSE SIDE  | 2223   | 32.9                  |
| DOWNWARD<br>TOTAL       | 6759   | 100.0                 |
| UPWARD<br>STREET SIDE   | 0      | 0.0                   |
| UPWARD<br>HOUSE SIDE    | 0      | 0.0                   |
| UPWARD<br>TOTAL         | 0      | 0.0                   |
| TOTAL<br>FLUX           | 6759   | 100.0                 |

EFFICACY = 113.2 lm/W

ALL CANDELA AND LUMENS IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY.  
THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE  
LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.



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### FLUX DISTRIBUTION BY SOLID ANGLE

(PER IESNA TM-15-11, LUMINAIRE CLASSIFICATION  
SYSTEM FOR OUTDOOR LUMINAIRES)

|               | LUMENS | PERCENT<br>OF<br>FIXTURE | BUG<br>ZONE<br>RATINGS |
|---------------|--------|--------------------------|------------------------|
| FORWARD LIGHT | 4537.  | 67.1                     |                        |
| FL ( 0- 30)   | 809.3  | 12.0                     |                        |
| FM ( 30- 60)  | 2285.3 | 33.8                     |                        |
| FH ( 60- 80)  | 1401.4 | 20.7                     | G1                     |
| FVH( 80- 90)  | 40.6   | 0.6                      | G1                     |
| BACK LIGHT    | 2223.  | 32.9                     |                        |
| BL ( 0- 30)   | 583.0  | 8.6                      | B2                     |
| BM ( 30- 60)  | 1085.1 | 16.1                     | B2                     |
| BH ( 60- 80)  | 532.9  | 7.9                      | B2 G2                  |
| BVH( 80- 90)  | 21.8   | 0.3                      | G1                     |
| UPLIGHT       | 0.     | 0.0                      |                        |
| UL ( 90-100)  | 0.0    | 0.0                      | U0                     |
| UH (100-180)  | 0.0    | 0.0                      | U0                     |
| TRAPPED LIGHT | 0.     | 0.0                      |                        |
| TOTAL FLUX    | 6759.  | 100.0                    |                        |

BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS  
(PER ADDENDUM A FOR IESNA TM-15-11)

BUG RATING: B2 U0 G2



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NVLAP LAB CODE: 200925-0

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# CANDELA TABULATION

|          | STREET SIDE |       |       |       |       |       |       |       |       |       |       |
|----------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|          | 0.0         | 5.0   | 15.0  | 25.0  | 35.0  | 45.0  | 55.0  | 65.0  | 71.5  | 75.0  | 85.0  |
|          |             |       |       |       |       |       |       |       |       |       |       |
| 180.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 175.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 165.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 155.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 145.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 135.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 125.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 115.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 105.0    | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 95.0     | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 92.5     | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 90.0     | 0.          | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
| 87.5     | 1.          | 1.    | 1.    | 1.    | 2.    | 2.    | 2.    | 3.    | 3.    | 3.    | 4.    |
| 85.0     | 5.          | 6.    | 8.    | 8.    | 7.    | 8.    | 9.    | 12.   | 52.   | 56.   | 44.   |
| V 82.5   | 20.         | 20.   | 29.   | 26.   | 20.   | 25.   | 25.   | 56.   | 389.  | 480.  | 347.  |
| E 80.0   | 42.         | 43.   | 59.   | 42.   | 40.   | 50.   | 50.   | 177.  | 1139. | 1377. | 1033. |
| R 77.5   | 64.         | 65.   | 85.   | 63.   | 68.   | 73.   | 95.   | 562.  | 2047. | 2426. | 1912. |
| T 75.0   | 77.         | 80.   | 98.   | 93.   | 97.   | 112.  | 182.  | 1504. | 2861. | 3240. | 2547. |
| I 72.5   | 103.        | 107.  | 122.  | 126.  | 130.  | 182.  | 513.  | 2615. | 3857. | 4123. | 3190. |
| C 70.0   | 141.        | 144.  | 159.  | 171.  | 176.  | 360.  | 1185. | 3576. | 4540. | 4542. | 3622. |
| A 69.0<< | 193.        | 197.  | 207.  | 219.  | 252.  | 689.  | 1775. | 4012. | 4735. | 4597. | 3767. |
| L 67.5   | 205.        | 209.  | 219.  | 232.  | 291.  | 796.  | 1914. | 4021. | 4677. | 4564. | 3775. |
| 65.0     | 276.        | 282.  | 312.  | 365.  | 605.  | 1372. | 2448. | 3789. | 4086. | 4018. | 3571. |
| A 62.5   | 431.        | 443.  | 511.  | 637.  | 1005. | 1747. | 2598. | 3482. | 3719. | 3648. | 3317. |
| N 60.0   | 657.        | 672.  | 736.  | 904.  | 1236. | 1847. | 2544. | 3297. | 3488. | 3419. | 3202. |
| G 57.5   | 848.        | 855.  | 916.  | 1051. | 1336. | 1861. | 2487. | 3167. | 3306. | 3241. | 3111. |
| L 55.0   | 972.        | 977.  | 1024. | 1144. | 1412. | 1866. | 2448. | 3120. | 3224. | 3142. | 3035. |
| E 52.5   | 1067.       | 1071. | 1116. | 1230. | 1493. | 1868. | 2382. | 2865. | 2969. | 2924. | 2913. |
| 50.0     | 1146.       | 1148. | 1198. | 1317. | 1566. | 1897. | 2340. | 2687. | 2761. | 2750. | 2796. |
| 47.5     | 1220.       | 1226. | 1283. | 1400. | 1638. | 1931. | 2292. | 2543. | 2608. | 2620. | 2686. |
| 45.0     | 1295.       | 1302. | 1365. | 1483. | 1704. | 1957. | 2222. | 2406. | 2487. | 2515. | 2585. |
| 42.5     | 1375.       | 1383. | 1461. | 1597. | 1783. | 1990. | 2190. | 2296. | 2378. | 2419. | 2491. |
| 40.0     | 1495.       | 1507. | 1604. | 1724. | 1873. | 2023. | 2145. | 2197. | 2274. | 2316. | 2382. |
| 37.5     | 1689.       | 1695. | 1773. | 1849. | 1946. | 2043. | 2072. | 2115. | 2187. | 2227. | 2285. |
| 35.0     | 1866.       | 1867. | 1917. | 1952. | 2008. | 2041. | 1997. | 2043. | 2108. | 2153. | 2191. |
| 30.0     | 2053.       | 2052. | 2067. | 2054. | 2019. | 1923. | 1897. | 1966. | 2029. | 2057. | 2050. |
| 25.0     | 2061.       | 2049. | 2029. | 1973. | 1880. | 1844. | 1866. | 1928. | 1972. | 1984. | 1941. |
| 20.0     | 1878.       | 1872. | 1862. | 1848. | 1846. | 1866. | 1887. | 1930. | 1940. | 1929. | 1866. |
| 15.0     | 1876.       | 1875. | 1881. | 1886. | 1894. | 1909. | 1925. | 1934. | 1916. | 1898. | 1835. |
| 10.0     | 1936.       | 1933. | 1933. | 1935. | 1941. | 1948. | 1937. | 1914. | 1891. | 1875. | 1822. |
| 5.0      | 1948.       | 1943. | 1939. | 1932. | 1922. | 1910. | 1890. | 1871. | 1855. | 1842. | 1815. |
| 0.0      | 1805.       | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. |

||  
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA



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# CANDELA TABULATION

|   | HOUSE SIDE |       |       |       |       |       |       |       |       |       |       |
|---|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|   | 90.0       | 95.0  | 105.0 | 115.0 | 125.0 | 135.0 | 145.0 | 155.0 | 165.0 | 175.0 | 180.0 |
|   | 180.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 175.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 165.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 155.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 145.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 135.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 125.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 115.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 105.0      | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 95.0       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 92.5       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 90.0       | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    | 0.    |
|   | 87.5       | 3.    | 4.    | 3.    | 3.    | 3.    | 2.    | 1.    | 0.    | 0.    | 0.    |
|   | 85.0       | 42.   | 32.   | 12.   | 11.   | 10.   | 14.   | 15.   | 18.   | 16.   | 3.    |
| V | 82.5       | 315.  | 239.  | 32.   | 30.   | 28.   | 38.   | 49.   | 56.   | 67.   | 37.   |
| E | 80.0       | 889.  | 658.  | 72.   | 55.   | 52.   | 68.   | 90.   | 105.  | 125.  | 128.  |
| R | 77.5       | 1631. | 1270. | 161.  | 90.   | 85.   | 100.  | 131.  | 148.  | 187.  | 204.  |
| T | 75.0       | 2235. | 1796. | 318.  | 130.  | 122.  | 129.  | 160.  | 172.  | 228.  | 251.  |
| I | 72.5       | 2885. | 2411. | 620.  | 178.  | 153.  | 154.  | 177.  | 171.  | 234.  | 260.  |
| C | 70.0       | 3288. | 2772. | 945.  | 225.  | 178.  | 179.  | 204.  | 176.  | 206.  | 205.  |
| A | 69.0<<     | 3418. | 2874. | 1165. | 255.  | 199.  | 197.  | 223.  | 191.  | 202.  | 184.  |
| L | 67.5       | 3426. | 2878. | 1215. | 262.  | 204.  | 202.  | 227.  | 195.  | 202.  | 183.  |
|   | 65.0       | 3303. | 2828. | 1436. | 305.  | 227.  | 224.  | 245.  | 224.  | 211.  | 187.  |
| A | 62.5       | 3160. | 2809. | 1640. | 370.  | 247.  | 248.  | 257.  | 254.  | 233.  | 210.  |
| N | 60.0       | 3112. | 2841. | 1823. | 488.  | 270.  | 272.  | 260.  | 274.  | 264.  | 235.  |
| G | 57.5       | 3074. | 2866. | 1979. | 663.  | 298.  | 295.  | 272.  | 283.  | 284.  | 259.  |
| L | 55.0       | 3013. | 2843. | 2098. | 866.  | 337.  | 318.  | 290.  | 290.  | 301.  | 282.  |
| E | 52.5       | 2891. | 2735. | 2077. | 1063. | 400.  | 336.  | 309.  | 309.  | 319.  | 298.  |
|   | 50.0       | 2787. | 2657. | 2090. | 1237. | 504.  | 357.  | 328.  | 326.  | 330.  | 313.  |
|   | 47.5       | 2681. | 2580. | 2092. | 1364. | 633.  | 386.  | 350.  | 344.  | 340.  | 326.  |
|   | 45.0       | 2575. | 2497. | 2071. | 1444. | 766.  | 447.  | 375.  | 362.  | 355.  | 346.  |
|   | 42.5       | 2474. | 2403. | 2040. | 1493. | 888.  | 536.  | 408.  | 382.  | 374.  | 368.  |
|   | 40.0       | 2365. | 2301. | 1994. | 1523. | 989.  | 627.  | 470.  | 409.  | 393.  | 383.  |
|   | 37.5       | 2263. | 2205. | 1941. | 1538. | 1073. | 715.  | 545.  | 466.  | 428.  | 409.  |
|   | 35.0       | 2165. | 2111. | 1886. | 1542. | 1145. | 805.  | 625.  | 534.  | 495.  | 470.  |
|   | 30.0       | 2012. | 1959. | 1785. | 1543. | 1266. | 1009. | 810.  | 695.  | 631.  | 597.  |
|   | 25.0       | 1896. | 1845. | 1710. | 1553. | 1375. | 1198. | 1044. | 922.  | 846.  | 806.  |
|   | 20.0       | 1825. | 1782. | 1680. | 1578. | 1474. | 1362. | 1266. | 1170. | 1116. | 1076. |
|   | 15.0       | 1800. | 1765. | 1689. | 1616. | 1553. | 1494. | 1437. | 1384. | 1348. | 1324. |
|   | 10.0       | 1797. | 1772. | 1722. | 1672. | 1634. | 1600. | 1572. | 1546. | 1529. | 1520. |
|   | 5.0        | 1803. | 1789. | 1764. | 1739. | 1720. | 1701. | 1688. | 1674. | 1665. | 1661. |
|   | 0.0        | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. | 1805. |

CONE OF MAXIMUM CANDELA



INDEPENDENT TESTING LABORATORIES, INC.  
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5-DEGREE  
ZONAL LUMEN SUMMARY

|         |     |
|---------|-----|
| 0- 5    | 43  |
| 5- 10   | 128 |
| 10- 15  | 206 |
| 15- 20  | 275 |
| 20- 25  | 339 |
| 25- 30  | 402 |
| 30- 35  | 460 |
| 35- 40  | 507 |
| 40- 45  | 546 |
| 45- 50  | 585 |
| 50- 55  | 624 |
| 55- 60  | 649 |
| 60- 65  | 641 |
| 65- 70  | 610 |
| 70- 75  | 449 |
| 75- 80  | 234 |
| 80- 85  | 60  |
| 85- 90  | 3   |
| 90- 95  | 0   |
| 95-100  | 0   |
| 100-105 | 0   |
| 105-110 | 0   |
| 110-115 | 0   |
| 115-120 | 0   |
| 120-125 | 0   |
| 125-130 | 0   |
| 130-135 | 0   |
| 135-140 | 0   |
| 140-145 | 0   |
| 145-150 | 0   |
| 150-155 | 0   |
| 155-160 | 0   |
| 160-165 | 0   |
| 165-170 | 0   |
| 170-175 | 0   |
| 175-180 | 0   |

10-DEGREE  
ZONAL LUMEN SUMMARY

|       |      |
|-------|------|
| 0- 10 | 171  |
| 0- 20 | 651  |
| 0- 30 | 1392 |
| 0- 40 | 2359 |
| 0- 50 | 3489 |
| 0- 60 | 4763 |
| 0- 70 | 6014 |
| 0- 80 | 6697 |
| 0- 90 | 6759 |
| 0-100 | 6759 |
| 0-110 | 6759 |
| 0-120 | 6759 |
| 0-130 | 6759 |
| 0-140 | 6759 |
| 0-150 | 6759 |
| 0-160 | 6759 |
| 0-170 | 6759 |
| 0-180 | 6759 |



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