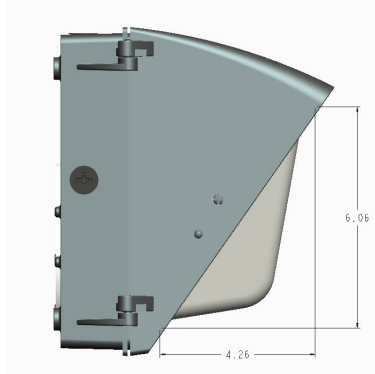


## ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

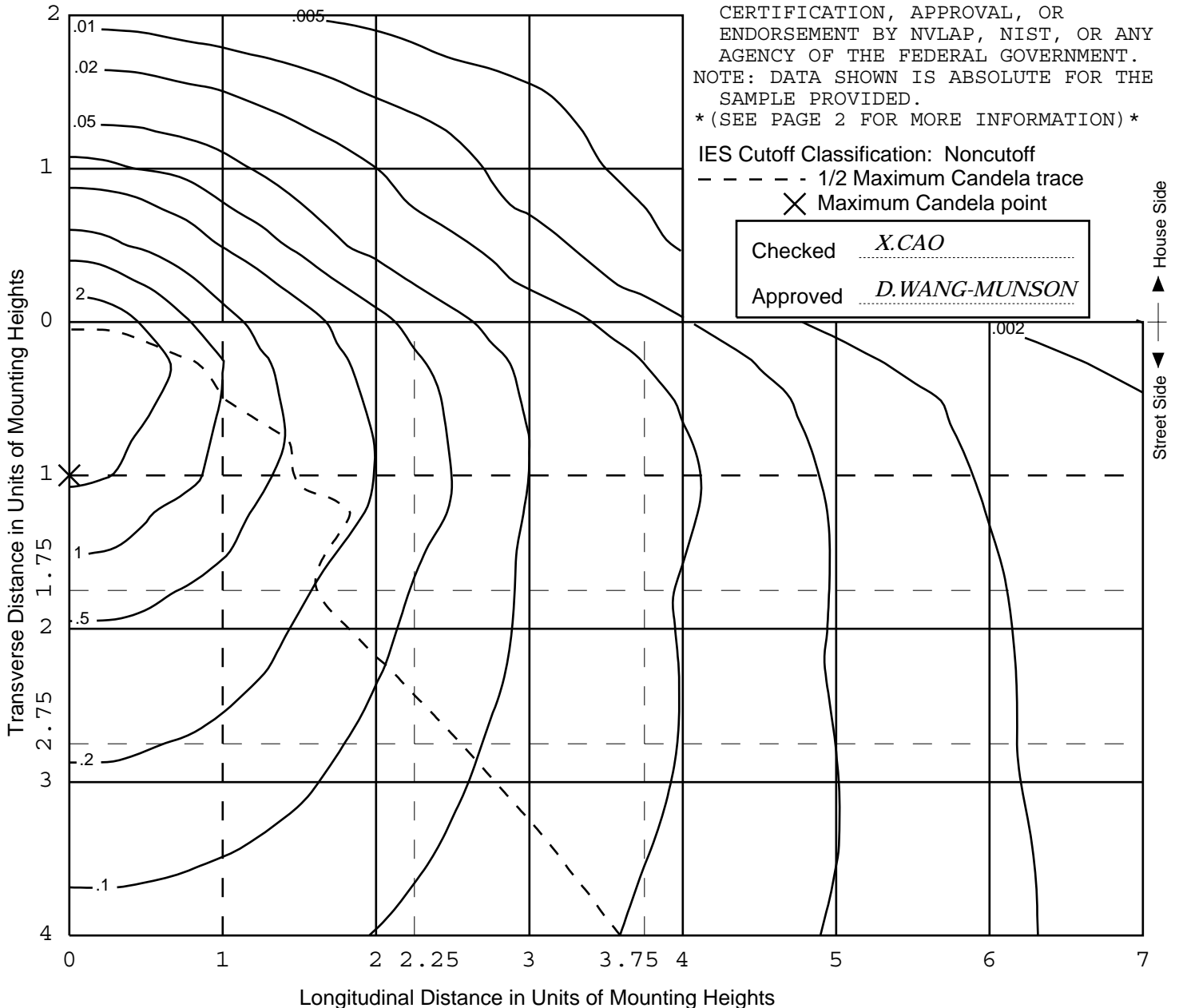
Values based on 16 foot mounting height.



REPORT NUMBER: RAB03135  
 ISSUE DATE: 04/04/17 PAGE: 1 OF 9  
 DATE SAMPLE TESTED: 04/04/17  
 CATALOG NUMBER: WP2LED37N/480 (ALSO APPLIES TO 347/RCL) (STANDARD CUTOFF - PRISMATIC GLASS LENS)  
 LUMINAIRE: MID SIZED WALLPACK. ALL ALUMINUM PRECISION DIE CAST CONSTRUCTION WITH TEMPERED GLASS REFRACTOR.  
 LAMP: NINETY WHITE LIGHT EMITTING DIODES (LEDs).  
 NOTE: THIS REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.  
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.  
 \*(SEE PAGE 2 FOR MORE INFORMATION)\*

IES Cutoff Classification: Noncutoff

--- 1/2 Maximum Candela trace  
 X Maximum Candela point



REPORT NUMBER: RAB03135

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DATE SAMPLE TESTED: 04/04/17

CATALOG NUMBER: WP2LED37N/480 (ALSO APPLIES TO 347/RCL) (STANDARD CUTOFF - PR

ADDITIONAL INFORMATION

TOTAL INPUT WATTS = 36.506 W AT 480.0 VAC.

LED DRIVER: RD-LT40-A0700-60PF

TEST PROCEDURE: IESNA LM-79-08

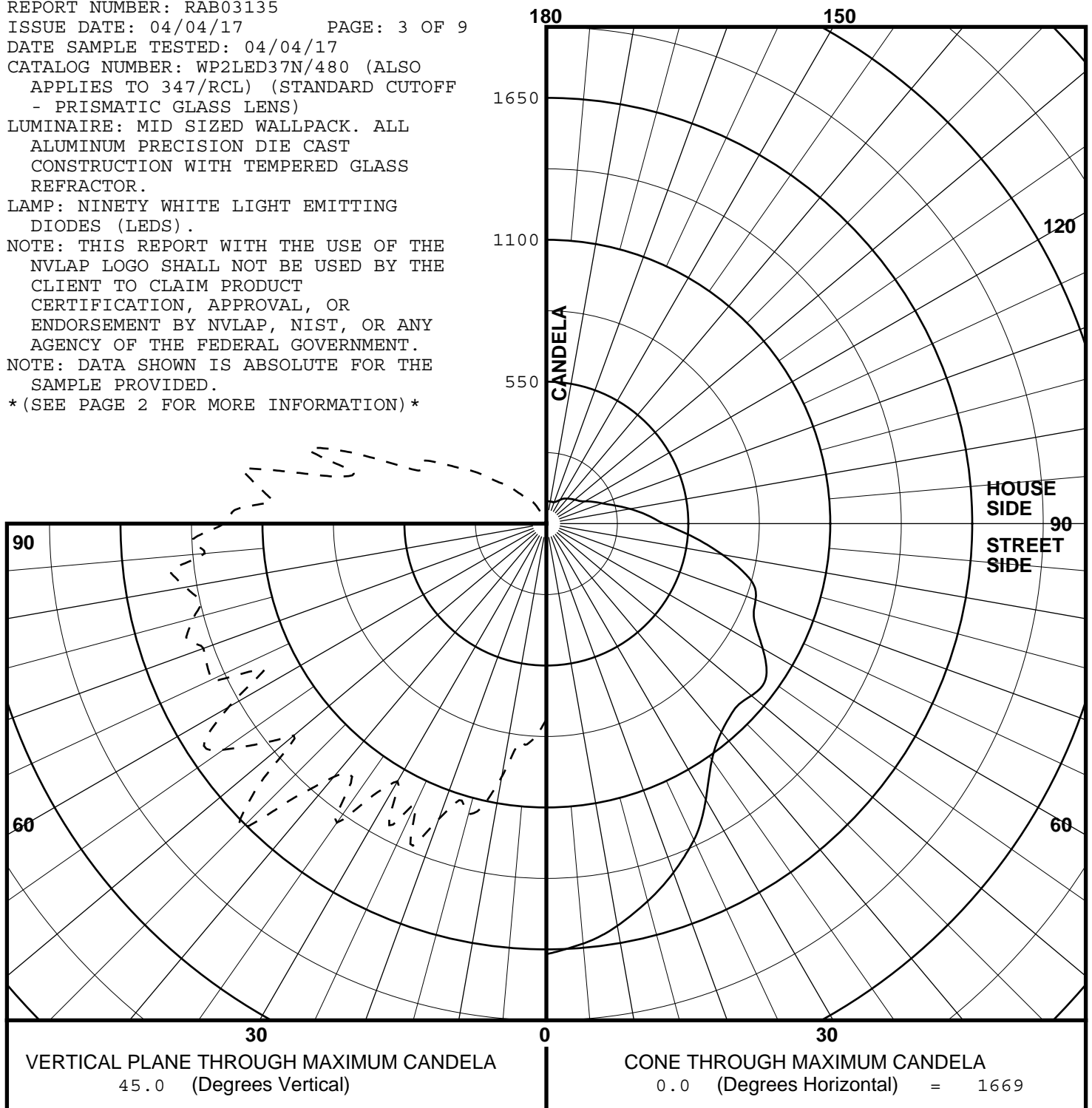
LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE

AMBIENT: 25.1

ACCREDITED LABORATORY CODE 201058-0

## MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: RAB03135  
 ISSUE DATE: 04/04/17 PAGE: 3 OF 9  
 DATE SAMPLE TESTED: 04/04/17  
 CATALOG NUMBER: WP2LED37N/480 (ALSO  
 APPLIES TO 347/RCL) (STANDARD CUTOFF  
 - PRISMATIC GLASS LENS)  
 LUMINAIRE: MID SIZED WALLPACK. ALL  
 ALUMINUM PRECISION DIE CAST  
 CONSTRUCTION WITH TEMPERED GLASS  
 REFRACTOR.  
 LAMP: NINETY WHITE LIGHT EMITTING  
 DIODES (LEDS).  
 NOTE: THIS REPORT WITH THE USE OF THE  
 NVLAP LOGO SHALL NOT BE USED BY THE  
 CLIENT TO CLAIM PRODUCT  
 CERTIFICATION, APPROVAL, OR  
 ENDORSEMENT BY NVLAP, NIST, OR ANY  
 AGENCY OF THE FEDERAL GOVERNMENT.  
 NOTE: DATA SHOWN IS ABSOLUTE FOR THE  
 SAMPLE PROVIDED.  
 \*(SEE PAGE 2 FOR MORE INFORMATION)\*



REPORT NUMBER: RAB03135

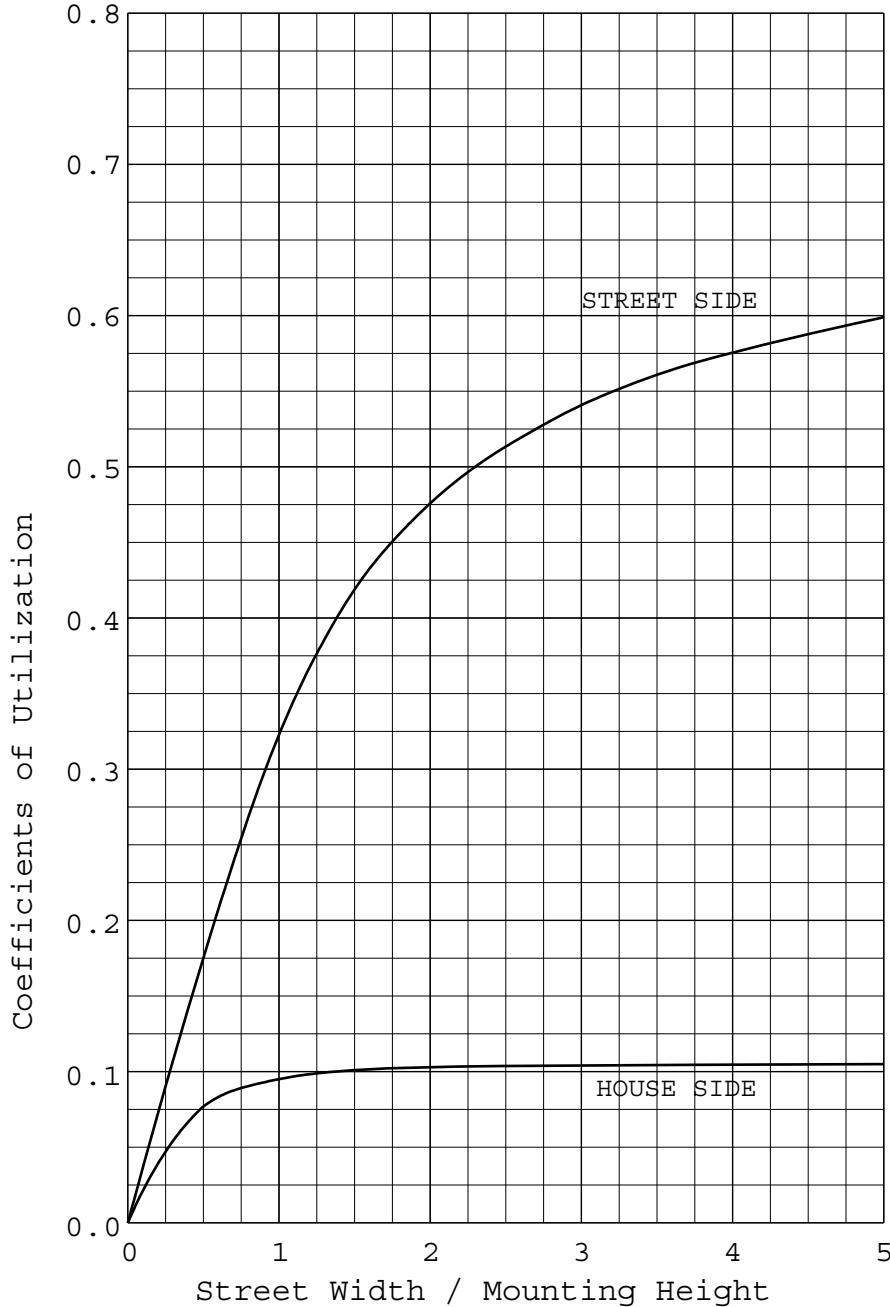
PAGE: 4 OF 9

ISSUE DATE: 04/04/17

DATE SAMPLE TESTED: 04/04/17

CATALOG NUMBER: WP2LED37N/480 (ALSO APPLIES TO 347/RCL) (STANDARD CUTOFF - PR

# COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



|                         | LUMENS | PERCENT<br>OF FIXTURE |
|-------------------------|--------|-----------------------|
| DOWNWARD<br>STREET SIDE | 2962.  | 68.8                  |
| DOWNWARD<br>HOUSE SIDE  | 460.   | 10.7                  |
| DOWNWARD<br>TOTAL       | 3422.  | 79.5                  |
| UPWARD<br>STREET SIDE   | 857.   | 19.9                  |
| UPWARD<br>HOUSE SIDE    | 27.    | 0.6                   |
| UPWARD<br>TOTAL         | 884.   | 20.5                  |
| TOTAL<br>FLUX           | 4306.  | 100.0                 |

TOTAL INPUT WATTS = 36.5  
EFFICACY = 118.0 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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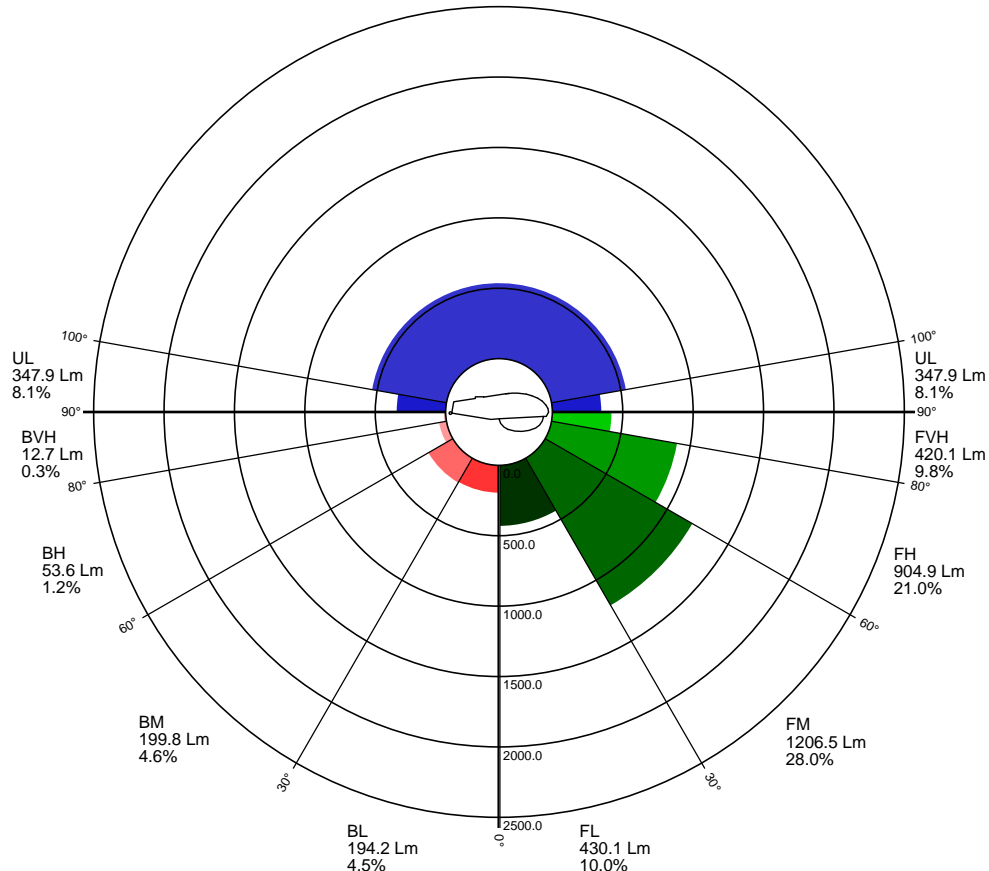
CATALOG NUMBER: WP2LED37N/480 (ALSO APPLIES TO 347/RCL) (STANDARD CUTOFF - PRISMATIC GLASS LENS)

| Zonal Summary |               | Lumens | % of Fixture | Zone Ratings |    |    |
|---------------|---------------|--------|--------------|--------------|----|----|
|               |               |        |              | B            | U  | G  |
| Forward       |               | 2962   | 68.8         |              |    |    |
| FL            | (0° - 30°)    | 430.1  | 10.0         |              |    |    |
| FM            | (30° - 60°)   | 1206.5 | 28.0         |              |    |    |
| FH            | (60° - 80°)   | 904.9  | 21.0         |              |    | G1 |
| FVH           | (80° - 90°)   | 420.1  | 9.8          |              |    | G3 |
| Backward      |               | 460    | 10.7         |              |    |    |
| BL            | (0° - 30°)    | 194.2  | 4.5          | B1           |    |    |
| BM            | (30° - 60°)   | 199.8  | 4.6          | B0           |    |    |
| BH            | (60° - 80°)   | 53.6   | 1.2          | B0           |    | G0 |
| BVH           | (80° - 90°)   | 12.7   | 0.3          |              |    | G1 |
| Upward        |               | 884    | 20.5         |              |    |    |
| UL            | (90° - 100°)  | 347.9  | 8.1          |              | U3 |    |
| UH            | (100° - 180°) | 536.2  | 12.5         |              | U4 |    |
| Trapped Light |               | 0      | 0.0          |              |    |    |
| Total Flux    |               | 4306   | 100.0        |              |    |    |

### Zonal Lumen Summary

(Linear scale)

UH  
536.2 Lm  
12.5%



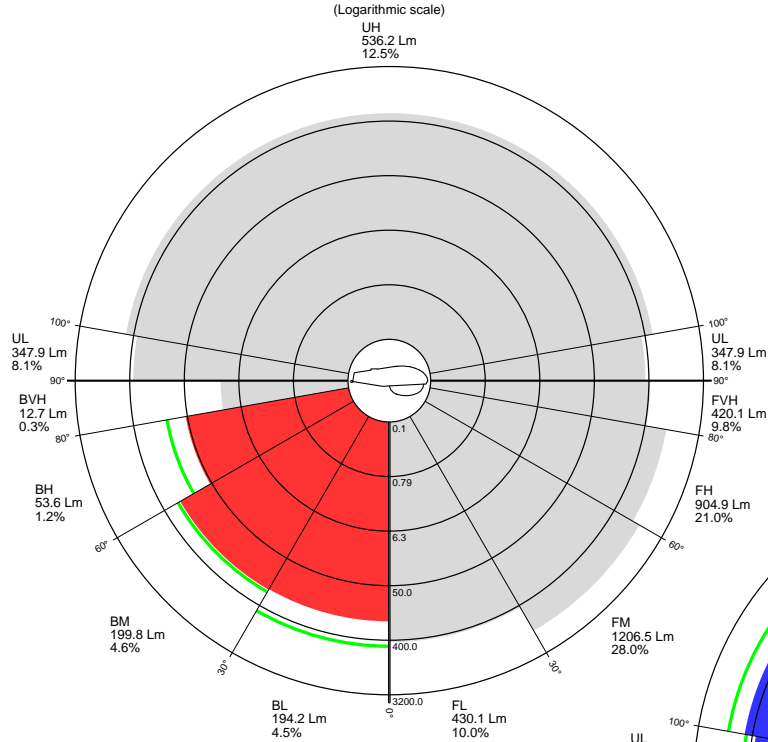
REPORT NUMBER: RAB03135

ISSUE DATE: 04/04/17

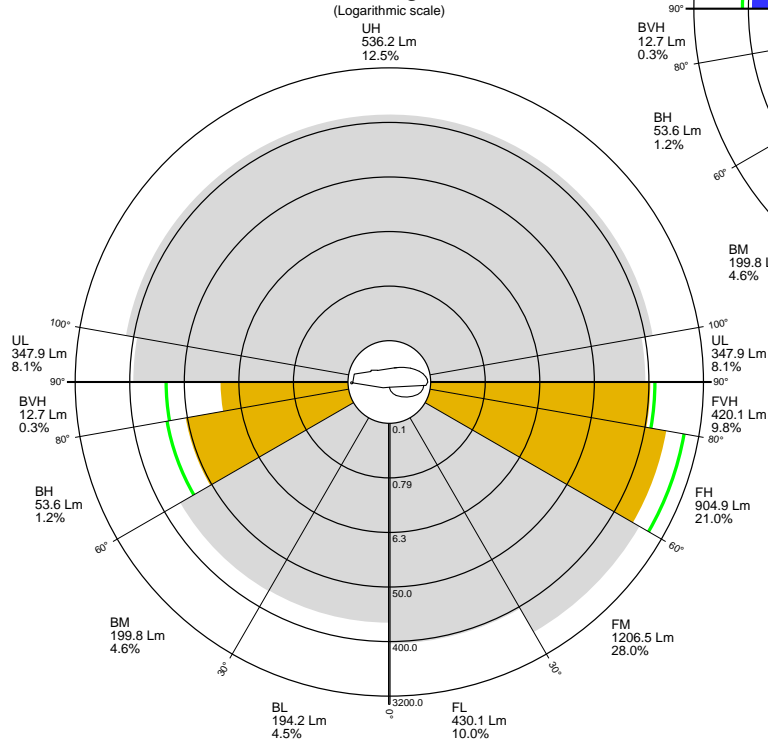
PAGE: 6 OF 9

CATALOG NUMBER: WP2LED37N/480 (ALSO APPLIES TO 347/RCL) (STANDARD CUTOFF -

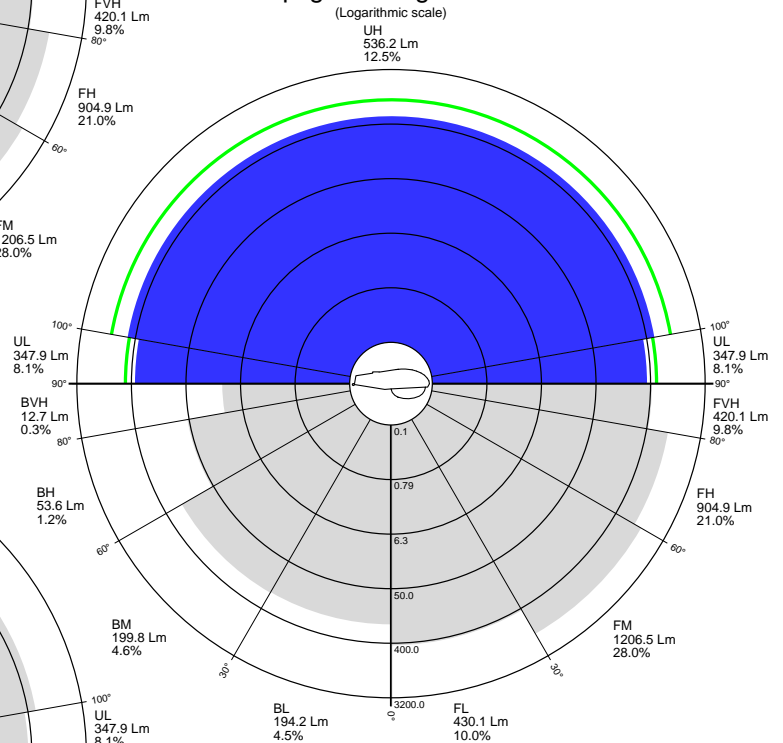
## PRISMATIC GLASS LENS.) Backlight Rating Details



## Glare Rating Details



## Uplight Rating Details



REPORT NUMBER: RAB03135

PAGE: 7 OF 9

ISSUE DATE: 04/04/17

DATE SAMPLE TESTED: 04/04/17

CATALOG NUMBER: WP2LED37N/480 (ALSO APPLIES TO 347/RCL) (STANDARD CUTOFF - PR

### CANDELA TABULATION

|   | STREET SIDE | LATERAL ANGLE |       |       |       |       |       |       |       |           |
|---|-------------|---------------|-------|-------|-------|-------|-------|-------|-------|-----------|
|   |             | 0.0           | 5.0   | 15.0  | 25.0  | 35.0  | 45.0  | 55.0  | 65.0  | 75.0 85.0 |
|   |             |               |       |       |       |       |       |       |       |           |
|   | 180.0       | 3.            | 3.    | 3.    | 3.    | 3.    | 3.    | 3.    | 3.    | 3.        |
|   | 175.0       | 0.            | 1.    | 1.    | 2.    | 3.    | 3.    | 4.    | 4.    | 4.        |
|   | 165.0       | 0.            | 0.    | 1.    | 2.    | 2.    | 3.    | 3.    | 4.    | 4.        |
|   | 155.0       | 25.           | 23.   | 16.   | 10.   | 6.    | 3.    | 4.    | 4.    | 4.        |
|   | 145.0       | 105.          | 102.  | 97.   | 85.   | 55.   | 28.   | 10.   | 5.    | 6.        |
|   | 135.0       | 201.          | 196.  | 199.  | 165.  | 130.  | 79.   | 45.   | 19.   | 11.       |
|   | 125.0       | 359.          | 355.  | 354.  | 296.  | 239.  | 162.  | 94.   | 47.   | 24.       |
|   | 115.0       | 525.          | 527.  | 497.  | 427.  | 381.  | 301.  | 183.  | 96.   | 42.       |
|   | 105.0       | 776.          | 769.  | 696.  | 637.  | 589.  | 449.  | 305.  | 199.  | 72.       |
|   | 95.0        | 1067.         | 1101. | 1059. | 944.  | 771.  | 611.  | 454.  | 309.  | 181.      |
|   | 90.0        | 1248.         | 1275. | 1251. | 1133. | 887.  | 679.  | 522.  | 355.  | 241.      |
|   | 87.5        | 1370.         | 1366. | 1233. | 1115. | 938.  | 701.  | 549.  | 384.  | 266.      |
|   | 85.0        | 1329.         | 1354. | 1337. | 1206. | 945.  | 741.  | 562.  | 399.  | 299.      |
| V | 82.5        | 1467.         | 1486. | 1377. | 1204. | 968.  | 749.  | 596.  | 413.  | 320.      |
| E | 80.0        | 1420.         | 1433. | 1330. | 1211. | 976.  | 763.  | 613.  | 425.  | 341.      |
| R | 77.5        | 1374.         | 1401. | 1356. | 1240. | 1031. | 776.  | 617.  | 444.  | 398.      |
| T | 75.0        | 1416.         | 1435. | 1379. | 1243. | 999.  | 791.  | 627.  | 455.  | 521.      |
| I | 72.5        | 1463.         | 1465. | 1373. | 1223. | 982.  | 791.  | 616.  | 484.  | 452.      |
| C | 70.0        | 1414.         | 1428. | 1346. | 1207. | 1007. | 776.  | 648.  | 651.  | 438.      |
| A | 67.5        | 1424.         | 1452. | 1404. | 1241. | 947.  | 774.  | 720.  | 740.  | 557.      |
| L | 65.0        | 1432.         | 1456. | 1360. | 1169. | 1002. | 897.  | 879.  | 715.  | 595.      |
|   | 62.5        | 1235.         | 1254. | 1234. | 1222. | 1051. | 1030. | 767.  | 634.  | 515.      |
| A | 60.0        | 1421.         | 1436. | 1399. | 1305. | 1242. | 956.  | 873.  | 764.  | 537.      |
| N | 57.5        | 1571.         | 1588. | 1506. | 1351. | 1101. | 907.  | 1006. | 760.  | 657.      |
| G | 55.0        | 1527.         | 1532. | 1414. | 1218. | 1056. | 1053. | 1005. | 784.  | 692.      |
| L | 52.5        | 1402.         | 1398. | 1328. | 1201. | 1159. | 1190. | 880.  | 716.  | 612.      |
| E | 50.0        | 1278.         | 1281. | 1272. | 1359. | 1341. | 1158. | 897.  | 808.  | 639.      |
|   | 47.5        | 1529.         | 1543. | 1598. | 1525. | 1286. | 975.  | 978.  | 820.  | 739.      |
|   | 45.0<<      | 1669.         | 1634. | 1515. | 1353. | 1118. | 1025. | 1039. | 889.  | 813.      |
|   | 42.5        | 1435.         | 1419. | 1345. | 1246. | 1110. | 1097. | 961.  | 903.  | 785.      |
|   | 40.0        | 1281.         | 1277. | 1204. | 1143. | 1212. | 1182. | 992.  | 955.  | 763.      |
|   | 37.5        | 1236.         | 1219. | 1266. | 1361. | 1246. | 978.  | 1047. | 987.  | 805.      |
|   | 35.0        | 1415.         | 1401. | 1389. | 1272. | 1126. | 1052. | 1145. | 1054. | 843.      |
|   | 30.0        | 1153.         | 1164. | 1179. | 1225. | 1214. | 1159. | 1062. | 994.  | 812.      |
|   | 25.0        | 1204.         | 1189. | 1212. | 1306. | 1159. | 1143. | 1112. | 985.  | 784.      |
|   | 20.0        | 1218.         | 1229. | 1262. | 1160. | 1134. | 1151. | 1056. | 880.  | 805.      |
|   | 15.0        | 1166.         | 1168. | 1189. | 1200. | 1087. | 1043. | 912.  | 846.  | 856.      |
|   | 10.0        | 997.          | 979.  | 969.  | 956.  | 915.  | 883.  | 858.  | 877.  | 803.      |
|   | 5.0         | 859.          | 865.  | 867.  | 897.  | 903.  | 866.  | 833.  | 827.  | 801.      |
|   | 0.0         | 759.          | 759.  | 759.  | 759.  | 759.  | 759.  | 759.  | 759.  | 759.      |

||  
PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB03135

PAGE: 8 OF 9

ISSUE DATE: 04/04/17

DATE SAMPLE TESTED: 04/04/17

CATALOG NUMBER: WP2LED37N/480 (ALSO APPLIES TO 347/RCL) (STANDARD CUTOFF - PR

### CANDELA TABULATION

| HOUSE SIDE |        | LATERAL ANGLE |      |       |       |       |       |       |       |       |       |       |
|------------|--------|---------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|            |        | 90.0          | 95.0 | 105.0 | 115.0 | 125.0 | 135.0 | 145.0 | 155.0 | 165.0 | 175.0 | 180.0 |
|            | 180.0  | 3.            | 3.   | 3.    | 3.    | 3.    | 3.    | 3.    | 3.    | 3.    | 3.    | 3.    |
|            | 175.0  | 4.            | 4.   | 4.    | 4.    | 4.    | 3.    | 3.    | 2.    | 1.    | 1.    | 1.    |
|            | 165.0  | 4.            | 4.   | 4.    | 4.    | 4.    | 3.    | 3.    | 2.    | 1.    | 1.    | 1.    |
|            | 155.0  | 4.            | 4.   | 4.    | 4.    | 4.    | 4.    | 3.    | 2.    | 2.    | 2.    | 2.    |
|            | 145.0  | 5.            | 4.   | 4.    | 4.    | 4.    | 4.    | 3.    | 3.    | 2.    | 2.    | 2.    |
|            | 135.0  | 5.            | 4.   | 6.    | 5.    | 4.    | 4.    | 3.    | 3.    | 2.    | 2.    | 2.    |
|            | 125.0  | 17.           | 14.  | 8.    | 6.    | 4.    | 4.    | 3.    | 3.    | 2.    | 2.    | 2.    |
|            | 115.0  | 27.           | 27.  | 17.   | 9.    | 6.    | 4.    | 3.    | 3.    | 4.    | 4.    | 4.    |
|            | 105.0  | 34.           | 37.  | 31.   | 16.   | 9.    | 6.    | 5.    | 5.    | 5.    | 5.    | 5.    |
|            | 95.0   | 29.           | 42.  | 44.   | 31.   | 15.   | 9.    | 6.    | 6.    | 6.    | 6.    | 7.    |
|            | 90.0   | 29.           | 38.  | 50.   | 40.   | 19.   | 10.   | 6.    | 6.    | 7.    | 7.    | 7.    |
|            | 87.5   | 37.           | 38.  | 52.   | 43.   | 22.   | 11.   | 7.    | 6.    | 6.    | 7.    | 7.    |
|            | 85.0   | 53.           | 40.  | 55.   | 45.   | 24.   | 12.   | 7.    | 6.    | 6.    | 6.    | 6.    |
| V          | 82.5   | 80.           | 48.  | 59.   | 47.   | 26.   | 13.   | 7.    | 5.    | 6.    | 6.    | 6.    |
| E          | 80.0   | 119.          | 59.  | 62.   | 49.   | 27.   | 14.   | 7.    | 5.    | 5.    | 5.    | 5.    |
| R          | 77.5   | 160.          | 76.  | 65.   | 53.   | 29.   | 14.   | 7.    | 4.    | 5.    | 5.    | 5.    |
| T          | 75.0   | 206.          | 101. | 69.   | 59.   | 33.   | 16.   | 7.    | 4.    | 4.    | 4.    | 4.    |
| I          | 72.5   | 244.          | 131. | 74.   | 64.   | 38.   | 22.   | 7.    | 3.    | 4.    | 4.    | 3.    |
| C          | 70.0   | 275.          | 162. | 80.   | 69.   | 45.   | 30.   | 16.   | 4.    | 3.    | 3.    | 3.    |
| A          | 67.5   | 299.          | 194. | 89.   | 75.   | 51.   | 36.   | 24.   | 14.   | 12.   | 7.    | 7.    |
| L          | 65.0   | 325.          | 218. | 100.  | 82.   | 59.   | 43.   | 32.   | 23.   | 19.   | 18.   | 19.   |
|            | 62.5   | 345.          | 243. | 116.  | 90.   | 68.   | 50.   | 41.   | 30.   | 27.   | 24.   | 24.   |
| A          | 60.0   | 363.          | 263. | 136.  | 100.  | 79.   | 58.   | 51.   | 38.   | 34.   | 31.   | 31.   |
| N          | 57.5   | 389.          | 283. | 160.  | 110.  | 88.   | 68.   | 60.   | 47.   | 42.   | 39.   | 38.   |
| G          | 55.0   | 403.          | 299. | 182.  | 122.  | 98.   | 80.   | 65.   | 58.   | 48.   | 47.   | 47.   |
| L          | 52.5   | 409.          | 320. | 206.  | 137.  | 108.  | 92.   | 74.   | 70.   | 57.   | 53.   | 53.   |
| E          | 50.0   | 422.          | 346. | 228.  | 157.  | 121.  | 106.  | 87.   | 75.   | 70.   | 62.   | 62.   |
|            | 47.5   | 432.          | 362. | 252.  | 178.  | 136.  | 120.  | 103.  | 81.   | 81.   | 76.   | 76.   |
|            | 45.0<< | 454.          | 390. | 273.  | 200.  | 154.  | 135.  | 118.  | 95.   | 87.   | 87.   | 87.   |
|            | 42.5   | 467.          | 412. | 300.  | 222.  | 173.  | 152.  | 136.  | 115.  | 100.  | 95.   | 96.   |
|            | 40.0   | 498.          | 445. | 326.  | 243.  | 191.  | 169.  | 154.  | 136.  | 119.  | 109.  | 109.  |
|            | 37.5   | 531.          | 476. | 360.  | 269.  | 210.  | 187.  | 173.  | 158.  | 144.  | 132.  | 133.  |
|            | 35.0   | 559.          | 507. | 394.  | 300.  | 231.  | 203.  | 190.  | 179.  | 169.  | 162.  | 160.  |
|            | 30.0   | 625.          | 576. | 467.  | 366.  | 286.  | 243.  | 223.  | 215.  | 214.  | 212.  | 212.  |
|            | 25.0   | 667.          | 629. | 544.  | 448.  | 359.  | 296.  | 264.  | 245.  | 243.  | 237.  | 239.  |
|            | 20.0   | 701.          | 689. | 619.  | 552.  | 459.  | 390.  | 345.  | 306.  | 298.  | 287.  | 288.  |
|            | 15.0   | 748.          | 742. | 692.  | 642.  | 589.  | 510.  | 473.  | 436.  | 411.  | 398.  | 398.  |
|            | 10.0   | 754.          | 752. | 724.  | 710.  | 694.  | 652.  | 628.  | 595.  | 571.  | 556.  | 558.  |
|            | 5.0    | 773.          | 776. | 788.  | 770.  | 729.  | 727.  | 732.  | 734.  | 732.  | 724.  | 728.  |
|            | 0.0    | 759.          | 759. | 759.  | 759.  | 759.  | 759.  | 759.  | 759.  | 759.  | 759.  | 759.  |

CONE OF MAXIMUM CANDELA

REPORT NUMBER: RAB03135  
 ISSUE DATE: 04/04/17  
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 9 OF 9  
 DATE SAMPLE TESTED: 04/04/17

### 5-DEGREE ZONAL LUMEN SUMMARY

|         |     |
|---------|-----|
| 0- 5    | 19  |
| 5- 10   | 56  |
| 10- 15  | 92  |
| 15- 20  | 125 |
| 20- 25  | 154 |
| 25- 30  | 179 |
| 30- 35  | 200 |
| 35- 40  | 216 |
| 40- 45  | 231 |
| 45- 50  | 252 |
| 50- 55  | 248 |
| 55- 60  | 260 |
| 60- 65  | 246 |
| 65- 70  | 245 |
| 70- 75  | 236 |
| 75- 80  | 232 |
| 80- 85  | 224 |
| 85- 90  | 208 |
| 90- 95  | 186 |
| 95-100  | 162 |
| 100-105 | 136 |
| 105-110 | 112 |
| 110-115 | 84  |
| 115-120 | 64  |
| 120-125 | 48  |
| 125-130 | 34  |
| 130-135 | 23  |
| 135-140 | 15  |
| 140-145 | 10  |
| 145-150 | 6   |
| 150-155 | 3   |
| 155-160 | 1   |
| 160-165 | 0   |
| 165-170 | 0   |
| 170-175 | 0   |
| 175-180 | 0   |

### 10-DEGREE ZONAL LUMEN SUMMARY

|       |      |
|-------|------|
| 0- 10 | 75   |
| 0- 20 | 291  |
| 0- 30 | 624  |
| 0- 40 | 1040 |
| 0- 50 | 1523 |
| 0- 60 | 2031 |
| 0- 70 | 2521 |
| 0- 80 | 2989 |
| 0- 90 | 3422 |
| 0-100 | 3770 |
| 0-110 | 4018 |
| 0-120 | 4166 |
| 0-130 | 4248 |
| 0-140 | 4286 |
| 0-150 | 4302 |
| 0-160 | 4305 |
| 0-170 | 4306 |
| 0-180 | 4306 |

REPORT NUMBER: RAB03136  
 DATE: 4/3/2017  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: WP2LED37N/480 (ALSO APPLIES TO 347/RCL) (STANDARD CUTOFF - PRISMATIC GLASS LENS)

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: MID SIZED WALLPACK. ALL ALUMINUM PRECISION DIE CAST CONSTRUCTION WITH TEMPERED GLASS REFRACTOR.

LAMP: NINETY WHITE LIGHT EMITTING DIODES (LEDs).

DRIVER: RD-LT40-A0700-60PF

OBJECT OF TEST: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT THE RATED INPUT VOLTAGES (480.0 AND 347.0 VAC, 60Hz) TO THE TEST SAMPLE.

|              |   |                      |
|--------------|---|----------------------|
| INSTRUMENTS: | GWINSTEK PROGRAMMABLE AC POWER SOURCE APS-7100          | Calibration Due: N/A |
|              | CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202     | 3/01/18              |
|              | OCEAN OPTICS QE65PRO Spectroradiometer                  | 03/07/18             |
|              | RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry | 03/07/18             |

OBJECT OF TEST: Measure the Absolute Flux in lumens\*, Total Radiant Flux\*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Indices (CRIa,1-14), Chromaticity Coordinates (x,y; u'v'), ANSI C78.377 Duv, and electrical data including ANSI C82.77-2002 Power Factor (PF), and Total Harmonic Distortion (THD) to the test sample. Measure electrical data including Total Harmonic Distortion (THD) at maximum nominal rated input voltage. Report Off-State Power.

PROCEDURE: The test sample was mounted inside the integrating sphere, energized, and allowed to stabilize. After stabilization occurred, measurements were taken. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the test sample operating at 60 HZ input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. Electrical data was also recorded at maximum nominal rated input voltage (347.0 VAC). All data are traceable to the National Institute of Standards and Technology. Off-State Power was reported with no voltage applied to the sample.

\*NOTE: Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.

RESULTS: (continued subsequent pages)

Checked X.CAO

Approved D.WANG-MUNSON  
 Lighting Engineer

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### RESULTS:

|                                 |                   |
|---------------------------------|-------------------|
| PHOTOMETRIC                     |                   |
| Total Integrated Flux (lumens)  | 4306 *            |
| SPECTRORADIOMETRIC              |                   |
| Observer                        | CIE 1931 2 degree |
| Chromaticity Ordinate x         | 0.3787            |
| Chromaticity Ordinate y         | 0.3742            |
| Observer                        | CIE 1976 2 degree |
| Chromaticity Ordinate u'        | 0.2250            |
| Chromaticity Ordinate v'        | 0.5002            |
| Correlated Color Temp CCT (K)   | 4028              |
| ANSI C78.377-2008 Duv           | -0.001            |
| Total Radiant Flux (milliWatts) | 13292 *           |
| ELECTRICAL                      |                   |
| Input Voltage (Volts AC)        | 480.0             |
| Input Current (Amps AC)         | 0.078             |
| Input Power (Watts)             | 36.5              |
| Input Power Factor (%)          | 96.9              |
| Input Current THD (%)           | 7.5               |
| Input Voltage THD (%)           | 0.2               |
| EFFICACY (Lumens/Watt)          |                   |
|                                 | 118.0             |
| ELECTRICAL AT MAX NONIMAL INPUT |                   |
| Input Voltage (Volts AC)        | 347.0             |
| Input Current (Amps AC)         | 0.105             |
| Input Power (Watts)             | 36.3              |
| Input Power Factor (%)          | 99.3              |
| Input Current THD (%)           | 11.3              |
| Input Voltage THD (%)           | 0.2               |
| Off-State Power (Watts)         |                   |
|                                 | 0.0               |

| COLOR RENDERING INDICES         | CRI |
|---------------------------------|-----|
| Ra (Average 1-8)                | 84  |
| R1 Light greyish red            | 83  |
| R2 Dark greyish yellow          | 91  |
| R3 Strong yellowish green       | 96  |
| R4 Moderate yellowish green     | 83  |
| R5 Light bluish green           | 83  |
| R6 Light blue                   | 87  |
| R7 Light violet                 | 86  |
| R8 Light reddish purple         | 66  |
| R9 Strong red                   | 14  |
| R10 Strong yellow               | 78  |
| R11 Strong green                | 82  |
| R12 Strong blue                 | 68  |
| R13 Light yellowish pink (skin) | 85  |
| R14 Moderate olive green (leaf) | 98  |

### \*NOTE:

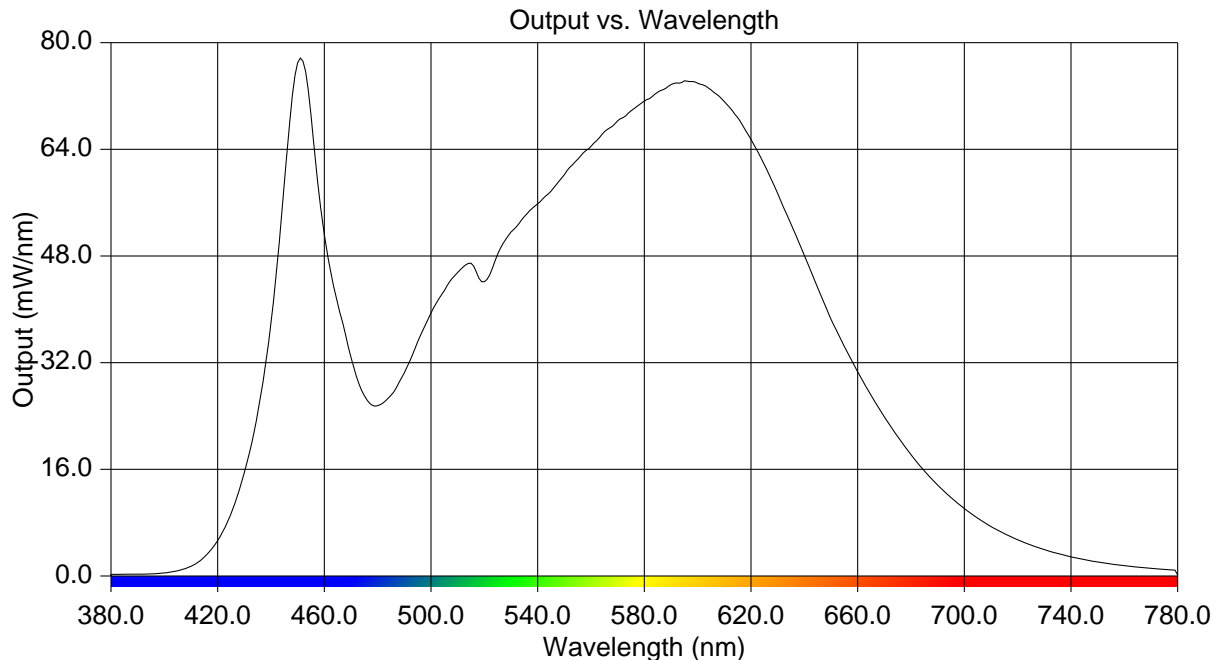
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.

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### RESULTS:

| Wavelength | mW per nm | Wavelength | mW per nm | Wavelength | mW per nm |
|------------|-----------|------------|-----------|------------|-----------|
| 380        | 0.238     | 515        | 46.914    | 650        | 38.506    |
| 385        | 0.254     | 520        | 44.143    | 655        | 34.360    |
| 390        | 0.266     | 525        | 48.280    | 660        | 30.627    |
| 395        | 0.326     | 530        | 51.596    | 665        | 27.139    |
| 400        | 0.455     | 535        | 53.917    | 670        | 23.908    |
| 405        | 0.769     | 540        | 55.823    | 675        | 20.868    |
| 410        | 1.457     | 545        | 57.716    | 680        | 18.205    |
| 415        | 2.846     | 550        | 60.187    | 685        | 15.770    |
| 420        | 5.284     | 555        | 62.501    | 690        | 13.619    |
| 425        | 9.411     | 560        | 64.447    | 695        | 11.779    |
| 430        | 15.551    | 565        | 66.629    | 700        | 10.128    |
| 435        | 24.334    | 570        | 68.285    | 705        | 8.671     |
| 440        | 37.905    | 575        | 69.768    | 710        | 7.416     |
| 445        | 58.822    | 580        | 71.249    | 715        | 6.367     |
| 450        | 76.996    | 585        | 72.561    | 720        | 5.444     |
| 455        | 69.147    | 590        | 73.706    | 725        | 4.630     |
| 460        | 51.080    | 595        | 74.274    | 730        | 3.952     |
| 465        | 40.960    | 600        | 73.922    | 735        | 3.361     |
| 470        | 32.790    | 605        | 72.928    | 740        | 2.864     |
| 475        | 27.058    | 610        | 71.149    | 745        | 2.459     |
| 480        | 25.555    | 615        | 68.766    | 750        | 2.104     |
| 485        | 27.117    | 620        | 65.454    | 755        | 1.796     |
| 490        | 30.477    | 625        | 61.719    | 760        | 1.543     |
| 495        | 35.137    | 630        | 57.386    | 765        | 1.322     |
| 500        | 39.460    | 635        | 52.817    | 770        | 1.145     |
| 505        | 42.798    | 640        | 48.108    | 775        | 0.988     |
| 510        | 45.511    | 645        | 43.241    | 780        | 0.149     |



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## CIE Chromaticity Diagram

