



LIGHTING SCIENCES CANADA LTD.

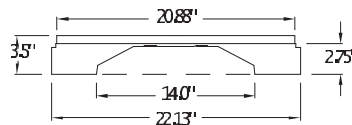
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CERTIFIED TEST REPORT NO. LSC E124

GREEN & CLEAN LED FLOODLIGHT LUMINAIRE CAT. NO. FL390 - 140/AC
WITH SEMI-SPECULAR REFLECTOR AND CLEAR FLAT LENS
TWO WHITE ARRAY LEDS. LUMEN OUTPUT = 9761 LMS.

FLOODLIGHT SUMMARY:

| | |
|----------------------------|-----------------|
| FIELD ANGLE | 134.0H X 141.0V |
| (BASED ON 10% OF MAX. CP.) | |
| BEAM ANGLE | 106.5H X 108.9V |
| (BASED ON 50% OF MAX. CP.) | |
| NEMA TYPE | 7H X 7V |
| MAX. CANDLEPOWER | 4102 CANDELA |
| MAX. CP. VERT. ANGLE | -2.5 DEGREES |
| MAX. CP. HORIZ. ANGLE | .0 DEGREES |
| AVG. MAX. CANDLEPOWER | 3967 CANDELA |
| FIELD FLUX | 9648.5 LUMENS |
| FIELD EFFICACY | 66.0 LMS/WATT |
| BEAM FLUX | 8353.1 LUMENS |
| BEAM EFFICACY | 57.2 LMS/WATT |
| TOTAL FLUX | 9761.4 LUMENS |
| TOTAL EFFICACY | 66.8 LMS/WATT |



PREPARED FOR:

GREEN & CLEAN ENERGY CO. LTD.
GUELPH, ONTARIO

CERTIFIED BY:

DATE: Dec 17 2009

The above tabulation is computed in accordance with IES publication no. LM-35-1989, and defines the beam from the 50% maximum candlepower points and the field from the 10% maximum candlepower points. LM-35-1989 supersedes the 1970 document which defines the beam from the 10% maximum candlepower points.

Laboratory result may not be representative of field performance.
ABSOLUTE PHOTOMETRY TAKEN.

LIGHTING SCIENCES CANADA LTD.
160 FROBISHER DRIVE, UNIT 5
WATERLOO, ONTARIO

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CANDLEPOWER TRACE THROUGH ORIGIN
VERTICAL TRACE CANDELA HORIZONTAL TRACE

| ANGLE | CANDLEPOWER | ANGLE | CANDLEPOWER | ANGLE | CANDLEPOWER | ANGLE | CANDLEPOWER |
|-------|-------------|-------|-------------|-------|-------------|-------|-------------|
| 90.0 | 0. | .0 | 4064. | 90.0 | 0. | .0 | 4064. |
| 87.0 | 2. | -3.0 | 4101. | 87.0 | 0. | -3.0 | 4053. |
| 84.0 | 6. | -6.0 | 4082. | 84.0 | 3. | -6.0 | 4041. |
| 81.0 | 14. | -9.0 | 4050. | 81.0 | 7. | -9.0 | 3990. |
| 78.0 | 93. | -12.0 | 4038. | 78.0 | 13. | -12.0 | 3904. |
| 75.0 | 228. | -15.0 | 4035. | 75.0 | 18. | -15.0 | 3807. |
| 72.0 | 338. | -18.0 | 4002. | 72.0 | 27. | -18.0 | 3688. |
| 69.0 | 481. | -21.0 | 3938. | 69.0 | 82. | -21.0 | 3549. |
| 66.0 | 876. | -24.0 | 3850. | 66.0 | 575. | -24.0 | 3413. |
| 63.0 | 1303. | -27.0 | 3729. | 63.0 | 1227. | -27.0 | 3287. |
| 60.0 | 1562. | -30.0 | 3593. | 60.0 | 1527. | -30.0 | 3171. |
| 57.0 | 1820. | -33.0 | 3432. | 57.0 | 1758. | -33.0 | 3048. |
| 54.0 | 2074. | -36.0 | 3259. | 54.0 | 1997. | -36.0 | 2912. |
| 51.0 | 2320. | -39.0 | 3084. | 51.0 | 2229. | -39.0 | 2778. |
| 48.0 | 2537. | -42.0 | 2917. | 48.0 | 2403. | -42.0 | 2655. |
| 45.0 | 2716. | -45.0 | 2747. | 45.0 | 2538. | -45.0 | 2538. |
| 42.0 | 2876. | -48.0 | 2570. | 42.0 | 2655. | -48.0 | 2403. |
| 39.0 | 3040. | -51.0 | 2358. | 39.0 | 2778. | -51.0 | 2229. |
| 36.0 | 3217. | -54.0 | 2112. | 36.0 | 2912. | -54.0 | 1997. |
| 33.0 | 3397. | -57.0 | 1843. | 33.0 | 3048. | -57.0 | 1758. |
| 30.0 | 3548. | -60.0 | 1569. | 30.0 | 3171. | -60.0 | 1527. |
| 27.0 | 3678. | -63.0 | 1264. | 27.0 | 3287. | -63.0 | 1227. |
| 24.0 | 3794. | -66.0 | 766. | 24.0 | 3413. | -66.0 | 575. |
| 21.0 | 3889. | -69.0 | 476. | 21.0 | 3549. | -69.0 | 82. |
| 18.0 | 3960. | -72.0 | 349. | 18.0 | 3688. | -72.0 | 27. |
| 15.0 | 4013. | -75.0 | 222. | 15.0 | 3807. | -75.0 | 18. |
| 12.0 | 4043. | -78.0 | 31. | 12.0 | 3904. | -78.0 | 13. |
| 9.0 | 4062. | -81.0 | 7. | 9.0 | 3990. | -81.0 | 7. |
| 6.0 | 4065. | -84.0 | 2. | 6.0 | 4041. | -84.0 | 3. |
| 3.0 | 4067. | -87.0 | 0. | 3.0 | 4053. | -87.0 | 0. |
| .0 | 4064. | -90.0 | 0. | .0 | 4064. | -90.0 | 0. |

- UPPER -

- LOWER -

- RIGHT -

- LEFT -

POLAR AXIS HORIZONTAL

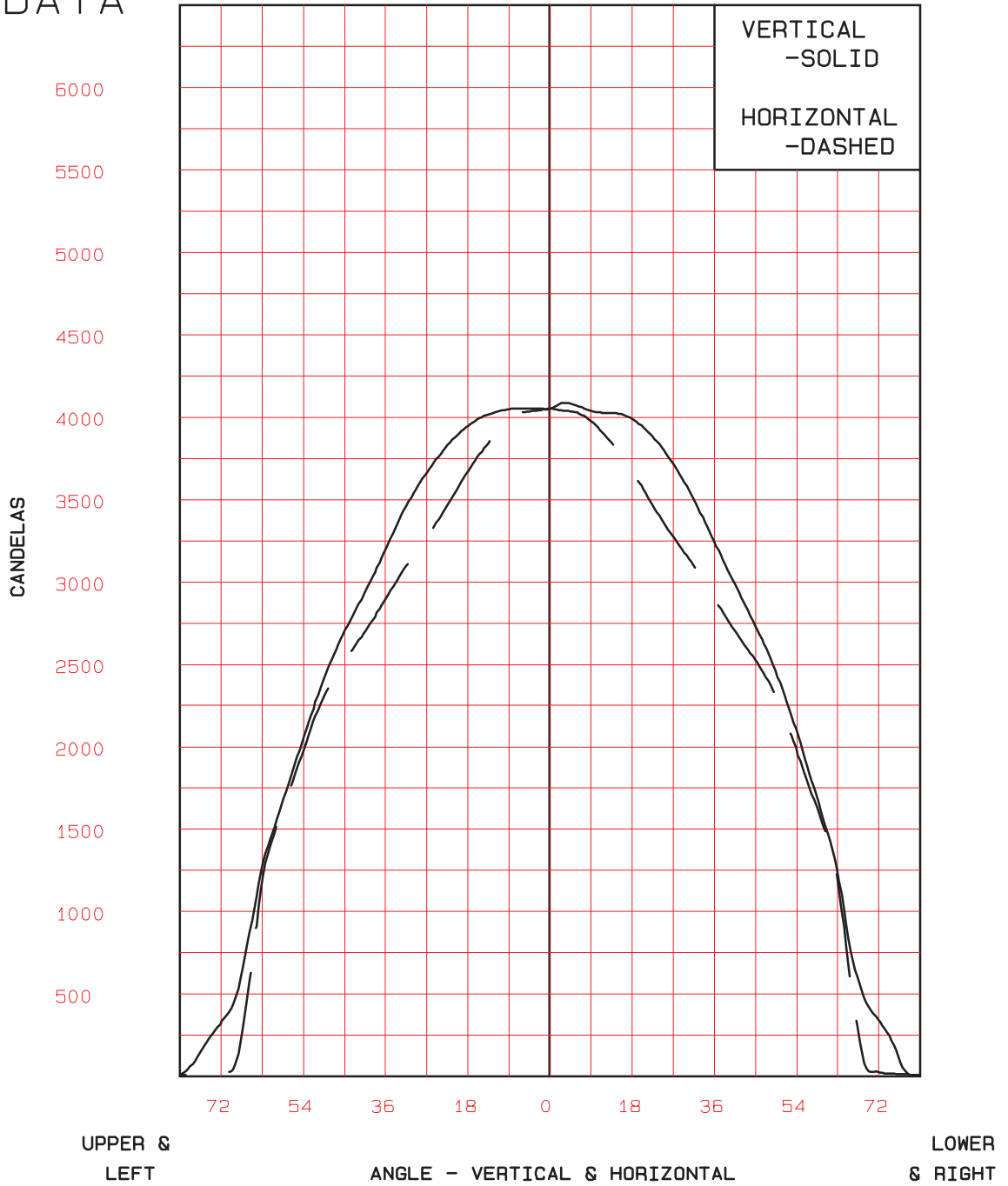


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FLOODLIGHT DATA

CANDLEPOWER TRACE THROUGH ORIGIN



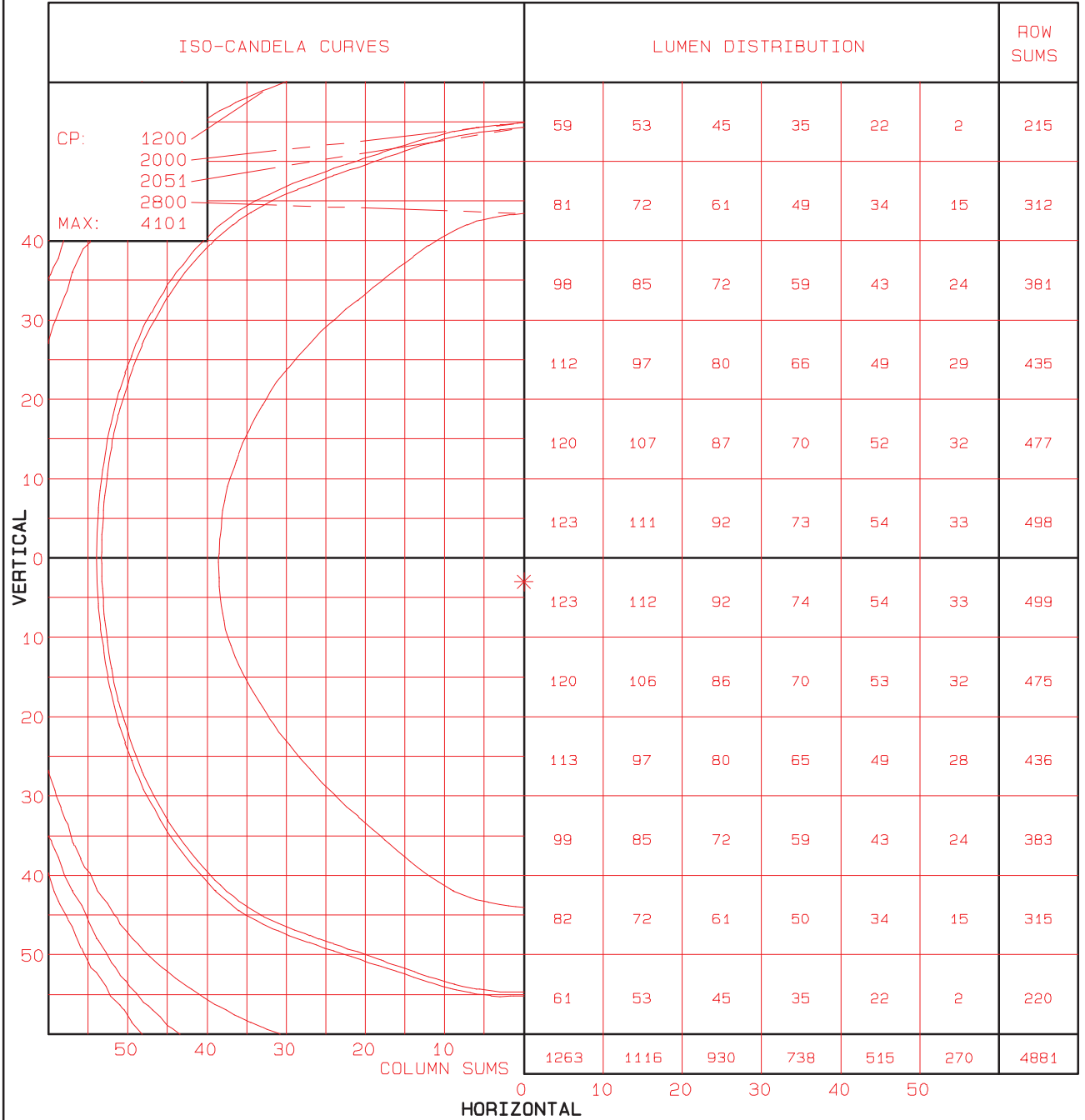


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FLOODLIGHT DATA

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ISOCANDELA DIAGRAM



CERTIFIED TEST REPORT NO. LSC E124
 STANDARD TABLE OF CANDELAS AND LUMENS, IN ACCORDANCE WITH IES PROCEDURES

ANGULAR DATA IS SHOWN WITH THE POLAR AXIS HORIZONTAL.

LUMINOUS INTENSITY IN CANDELAS AT CENTERS OF ZONES.
 LUMINOUS FLUX IN LUMENS IN ZONES.
 ***** MULTIPLY CANDELAS BY 1 *****
 LUMEN OUTPUT = 9761 LMS.

RIGHT HAND COLUMN SHOWS LUMEN TOTAL FOR ONE SIDE ONLY, 0 TO 90 DEGREES

| VERT ANG. | HORIZONTAL ANGLE - DEGREES | | | | | | | | | | |
|--------------|----------------------------|-------|-------|-------|--------|--------|-------|-----|-----|-----|-------|
| | 0. | 10. | 20. | 30. | 40. | 50. | 60. | 70. | 80. | 90. | |
| 90. | 3. | 2. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | .16 |
| | .08 | .06 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | |
| 80. | 212. | 187. | 148. | 16. | 9. | 7. | 3. | 1. | 0. | | 16.73 |
| | 6.42 | 5.49 | 4.08 | .39 | .18 | .11 | .04 | .01 | .00 | .00 | |
| 70. | 997. | 933. | 842. | 665.# | 157. | 17. | 10. | 3. | 0. | | 101.3 |
| | 30.2 | 27.4 | 23.2 | 16.6# | 3.4 | .3 | .1 | .0 | .0 | .0 | |
| 60. | 1945. | 1787. | 1617. | 1398. | 1029.# | 111. | 17. | 7. | 0. | | 215.2 |
| | 58.9 | 52.5 | 44.6 | 34.8 | 22.1# | 1.9 | .2 | .1 | .0 | .0 | |
| 50. | 2675. | 2445. | 2205. | 1974. | 1558. | 883.# | 25. | 10. | 1. | | 312.2 |
| | 81.1 | 71.9 | 60.8 | 49.2 | 33.5 | 15.4# | .3 | .1 | .0 | .0 | |
| 40. | 3219. | 2883. | 2622. | 2362. | 1982. | 1379.# | 64. | 13. | 1. | | 381.1 |
| | 97.6 | 84.7 | 72.3 | 58.9 | 42.6 | 24.1# | .8 | .1 | .0 | .0 | |
| 30. | 3683. | 3289. | 2917. | 2634. | 2266. | 1637.# | 228. | 16. | 1. | | 435. |
| | 112. | 97. | 80. | 66. | 49. | 29.# | 3. | 0. | 0. | .0 | |
| 20. | 3972. | 3642. | 3161. | 2808. | 2438. | 1814. | 647.# | 17. | 1. | | 477. |
| | 120. | 107. | 87. | 70. | 52. | 32. | 8.# | 0. | 0. | .0 | |
| 10. | 4049. | 3786. | 3341. | 2935. | 2523. | 1900. | 846.# | 18. | 2. | | 498. |
| | 123. | 111. | 92. | 73. | 54. | 33. | 11.# | 0. | 0. | .0 | |
| 0. | 4053. | 3797. | 3347. | 2952. | 2530. | 1899. | 845.# | 18. | 2. | | 499. |
| | 123. | 112. | 92. | 74. | 54. | 33. | 11.# | 0. | 0. | .0 | |
| -10. | 3966. | 3603. | 3134. | 2806. | 2442. | 1810. | 647.# | 17. | 1. | | 475. |
| | 120. | 106. | 86. | 70. | 53. | 32. | 8.# | 0. | 0. | .0 | |
| -20. | 3718. | 3308. | 2899. | 2622. | 2274. | 1633.# | 227. | 15. | 1. | | 436. |
| | 113. | 97. | 80. | 65. | 49. | 28.# | 3. | 0. | 0. | .0 | |
| -30. | 3253. | 2900. | 2625. | 2375. | 1986. | 1376.# | 62. | 13. | 1. | | 383.0 |
| | 98.6 | 85.2 | 72.4 | 59.2 | 42.7 | 24.0# | .8 | .1 | .0 | .0 | |
| -40. | 2706. | 2466. | 2228. | 2007. | 1561. | 869.# | 24. | 10. | 1. | | 315.1 |
| | 82.0 | 72.5 | 61.4 | 50.0 | 33.6 | 15.2# | .3 | .1 | .0 | .0 | |
| -50. | 2014. | 1818. | 1648. | 1419. | 1042.# | 110. | 16. | 7. | 0. | | 219.9 |
| | 61.0 | 53.4 | 45.4 | 35.4 | 22.4# | 1.9 | .2 | .1 | .0 | .0 | |
| -60. | 968. | 922. | 819. | 644.# | 151. | 16. | 10. | 3. | 0. | | 98.8 |
| | 29.3 | 27.1 | 22.6 | 16.1# | 3.2 | .3 | .1 | .0 | .0 | .0 | |
| -70. | 231. | 205. | 164. | 15. | 8. | 6. | 2. | 1. | 0. | | 18.23 |
| | 7.00 | 6.03 | 4.53 | .36 | .17 | .10 | .03 | .01 | .00 | .00 | |
| -80. | 2. | 1. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | .13 |
| | .06 | .04 | .01 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | |
| -90. | | | | | | | | | | | |

1263. 1116. 930. 738. 515. 270. 47. 1. 0.
 BOTTOM ROW SHOWS LUMEN SUMMATION OF VERTICAL ZONES, +90 TO - 90 DEGREES

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160 FROBISHER DRIVE, UNIT 5
WATERLOO, ONTARIO

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SUPPLEMENTARY MEASUREMENTS AS PER IES-LM-79-08

STABILIZATION TIME: 1 HOUR 30 MINUTES

ELECTRICAL CONSUMPTION

INPUT VOLTAGE: 120.0 VRMS
INPUT CURRENT: 1.222 ARMS
INPUT WATTAGE: 146.1
POWER FACTOR: 0.996

CHROMATICITY MEASUREMENTS

CIE 1931-x: 0.375
CIE 1931-y: 0.391
CORRELATED COLOUR TEMPERATURE: 4252 DEG. K
COLOUR RENDERING INDEX: 65.0%