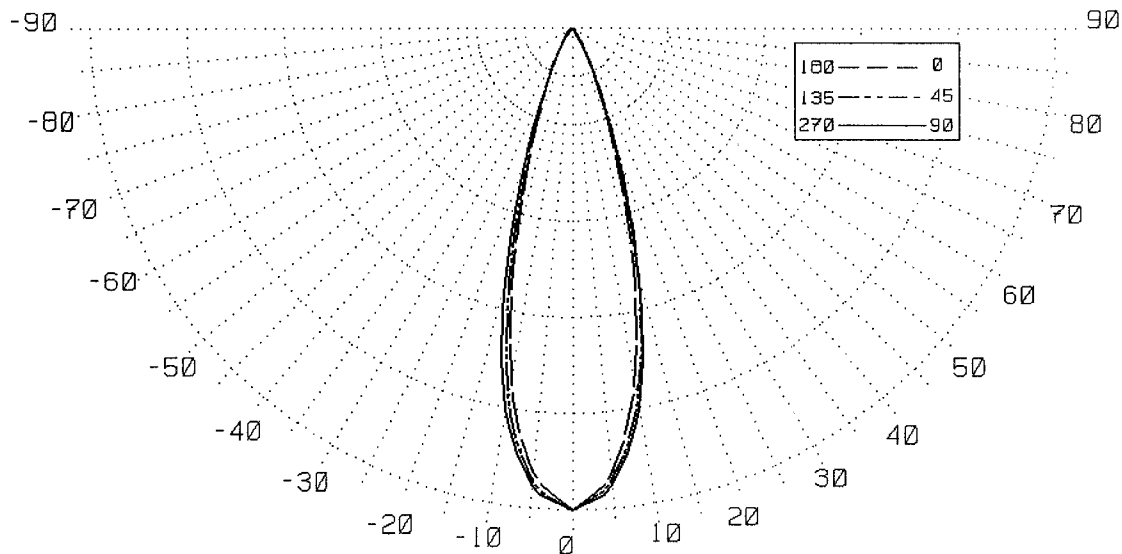


BALLABS CERTIFIED TEST REPORT NO.: 20457.0 DATE 05/09/18
PREPARED FOR: H.E. WILLIAMS, INC - CARTHAGE, MO
DESCRIPTION: GEN7 V13 LED 4"SHORT HEATSINK 4"RND ADJ DOWNLIGHT @ 0 TILT
ACRYLIC MED TIR OPTIC & 4"WHITE ASYM FLUSH REFL w/SOLITE
LENS ADVANCE #XI025C070V054DSM1 @610mA
CATALOG NBR: 4AR-L20/835-DIM-UNV-L-M-OF-WH (0 DEGREE TILT)
LAMP TYPE : BXRE-35E2000

0 DEGREE PLANE CONTAINS MAXIMUM CANDLEPOWER



[Handwritten signature]

NVLAP[®]
TESTING

NVLAP LAB CODE 200921-0

| LUMEN SUMMARY | | | | | | | |
|-------------------|--------|-------|-------|--------|--------|-------|-------|
| ZONE | LUMENS | %LAMP | %FIXT | ZONE | LUMENS | %LAMP | %FIXT |
| 0- 30 | 1686. | NA. | 91.5 | 90-120 | 0. | NA. | .0 |
| 0- 40 | 1763. | NA. | 95.7 | 90-130 | 0. | NA. | .0 |
| 0- 60 | 1818. | NA. | 98.7 | 90-150 | 0. | NA. | .0 |
| 0- 90 | 1841. | NA. | 100.0 | 90-180 | 0. | NA. | .0 |
| TOTAL LUMINAIRE = | | | | 0-180 | 1841. | NA. | 100.0 |

THIS BALLABS REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THIS CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.

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 LAMP TYPE : BXRE-35E2000

CANDLEPOWER DISTRIBUTION
 0 DEGREE PLANE CONTAINS MAXIMUM CANDLEPOWER

| VERT | HORIZONTAL | | | | | | | | | | LUMENS | |
|------|------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|-------|
| | .0 | 22.5 | 45.0 | 67.5 | 90.0 | 112.5 | 135.0 | 157.5 | 180.0 | FRONT | BACK | TOTAL |
| 0 | 5797. | 5797. | 5797. | 5797. | 5797. | 5797. | 5797. | 5797. | 5797. | | | |
| 5 | 5399. | 5407. | 5480. | 5529. | 5531. | 5522. | 5483. | 5420. | 5377. | 261.0 | 261.1 | 522.1 |
| 10 | 4358. | 4475. | 4561. | 4664. | 4655. | 4610. | 4482. | 4399. | 4269. | | | |
| 15 | 2836. | 3016. | 3138. | 3200. | 3147. | 3006. | 2835. | 2696. | 2623. | 440.5 | 404.1 | 844.6 |
| 20 | 1427. | 1591. | 1685. | 1713. | 1619. | 1475. | 1367. | 1329. | 1299. | | | |
| 25 | 711. | 742. | 785. | 752. | 679. | 643. | 626. | 619. | 594. | 172.9 | 146.1 | 319.0 |
| 30 | 304. | 316. | 303. | 283. | 275. | 251. | 259. | 268. | 262. | | | |
| 35 | 134. | 140. | 126. | 115. | 114. | 108. | 111. | 131. | 131. | 40.0 | 37.5 | 77.5 |
| 40 | 67. | 68. | 63. | 60. | 60. | 61. | 67. | 74. | 77. | | | |
| 45 | 41. | 38. | 37. | 36. | 39. | 42. | 45. | 49. | 51. | 14.3 | 17.7 | 32.0 |
| 50 | 28. | 28. | 29. | 30. | 31. | 33. | 35. | 38. | 38. | | | |
| 55 | 24. | 23. | 24. | 25. | 26. | 27. | 27. | 28. | 28. | 10.6 | 12.2 | 22.8 |
| 60 | 19. | 19. | 19. | 19. | 20. | 19. | 19. | 22. | 21. | | | |
| 65 | 15. | 16. | 15. | 16. | 15. | 16. | 15. | 15. | 15. | 8.2 | 7.9 | 16.1 |
| 70 | 10. | 11. | 10. | 10. | 10. | 10. | 10. | 10. | 10. | | | |
| 75 | 7. | 8. | 7. | 6. | 7. | 6. | 6. | 7. | 6. | 3.8 | 3.5 | 7.3 |
| 80 | 3. | 3. | 3. | 3. | 3. | 3. | 3. | 3. | 3. | | | |
| 85 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | .0 | .0 | .0 |
| 90 | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | 0. | | | |

USE .333 FT. AS LENGTH AND .333 FT. AS WIDTH

BALLABS CERTIFIED TEST REPORT NO.: 20457.0 DATE 05/09/18
 PREPARED FOR: H.E. WILLIAMS, INC - CARTHAGE, MO
 DESCRIPTION: GEN7 V13 LED 4"SHORT HEATSINK 4"RND ADJ DOWNLIGHT @ 0 TILT
 ACRYLIC MED TIR OPTIC & 4"WHITE ASYM FLUSH REFL w/SOLITE
 LENS ADVANCE #XI025C070V054DSM1 @610mA
 CATALOG NBR: 4AR-L20/835-DIM-UNV-L-M-OF-WH (0 DEGREE TILT)
 LAMP TYPE : BXRE-35E2000

ZONAL CAVITY COEFFICIENTS OF UTILIZATION

EFFECTIVE FLOOR CAVITY REFLECTANCE=.20

| CEILING | .80 | | | | .70 | | | | .50 | | | | .30 | | | | .10 | | | | .00 |
|---------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|--|--|-----|
| WALL | .70 | .50 | .30 | .10 | .70 | .50 | .30 | .10 | .50 | .30 | .10 | .50 | .30 | .10 | .50 | .30 | .10 | .00 | | | |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 1.19 | 1.19 | 1.19 | 1.19 | 1.16 | 1.16 | 1.16 | 1.16 | 1.11 | 1.11 | 1.11 | 1.06 | 1.06 | 1.06 | 1.02 | 1.02 | 1.02 | 1.00 | | | |
| 1 | 1.15 | 1.13 | 1.11 | 1.09 | 1.13 | 1.11 | 1.09 | 1.08 | 1.07 | 1.06 | 1.05 | 1.03 | 1.02 | 1.01 | 1.00 | .99 | .99 | .97 | | | |
| 2 | 1.11 | 1.07 | 1.04 | 1.01 | 1.09 | 1.05 | 1.02 | 1.00 | 1.02 | 1.00 | .98 | .99 | .97 | .96 | .96 | .95 | .94 | .92 | | | |
| 3 | 1.07 | 1.02 | .98 | .95 | 1.05 | 1.01 | .97 | .94 | .98 | .95 | .93 | .96 | .94 | .92 | .94 | .92 | .90 | .89 | | | |
| 4 | 1.03 | .97 | .93 | .90 | 1.02 | .96 | .92 | .89 | .94 | .91 | .88 | .92 | .90 | .87 | .91 | .88 | .86 | .85 | | | |
| 5 | .99 | .93 | .89 | .85 | .98 | .92 | .88 | .85 | .91 | .87 | .84 | .89 | .86 | .84 | .88 | .85 | .83 | .82 | | | |
| 6 | .97 | .90 | .85 | .82 | .95 | .89 | .85 | .82 | .88 | .84 | .82 | .87 | .83 | .81 | .85 | .83 | .80 | .79 | | | |
| 7 | .94 | .87 | .82 | .79 | .92 | .86 | .82 | .79 | .85 | .81 | .79 | .84 | .81 | .78 | .83 | .80 | .78 | .77 | | | |
| 8 | .91 | .84 | .79 | .76 | .90 | .83 | .79 | .76 | .82 | .78 | .76 | .81 | .78 | .75 | .80 | .77 | .75 | .74 | | | |
| 9 | .88 | .80 | .76 | .73 | .87 | .80 | .76 | .73 | .79 | .75 | .73 | .78 | .75 | .72 | .77 | .74 | .72 | .71 | | | |
| 10 | .84 | .77 | .73 | .70 | .84 | .77 | .72 | .70 | .76 | .72 | .69 | .75 | .72 | .69 | .75 | .71 | .69 | .68 | | | |

TESTED IN ACCORDANCE WITH CURRENT IES PROCEDURES

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DESCRIPTION: GEN7 V13 LED 4"SHORT HEATSINK 4"RND ADJ DOWNLIGHT @ 0 TILT
ACRYLIC MED TIR OPTIC & 4"WHITE ASYM FLUSH REFL w/SOLITE
LENS ADVANCE #XI025C070V054DSM1 @610mA
CATALOG NBR: 4AR-L20/835-DIM-UNV-L-M-OF-WH (0 DEGREE TILT)
LAMP TYPE : BXRE-35E2000

ELECTRICAL CHARACTERISTICS 120.06V .2038A 24.2400W

LUMINOUS EFFICACY (LUMENS / WATTS) = 76.0

TESTED IN ACCORDANCE WITH CURRENT IES STANDARDS
UTILIZING ABSOLUTE PHOTOMETRY PER LM-79-08

