

## PHOTOMETRIC RESULTS

|                   |                            |                      |                 |
|-------------------|----------------------------|----------------------|-----------------|
| <b>Name:</b>      | NOAH D650 DAZ 830 Rosewood |                      |                 |
| <b>Number:</b>    | 01                         | <b>Diameter:</b>     | 650 mm          |
| <b>Report:</b>    | 25-06-2018                 | <b>Length:</b>       | 0 mm            |
| <b>Meas.-no.:</b> | 01                         | <b>Width:</b>        | 0 mm            |
| <b>Lamp type:</b> | LED 840 - 01               | <b>Height:</b>       | 20 mm           |
| <b>Number:</b>    | 1                          | <b>Power:</b>        | 35,1 W          |
| <b>Lamp flux:</b> | 5868,00 lm                 | <b>Operator:</b>     | INDELAGUE GROUP |
| <b>Date:</b>      | 20-07-2018 16:30:30        | <b>Output ratio:</b> | 83,2 %          |

## Protocol

**LiTG-class:** E23  
**UTE-class:** 0,05 J + 0,78 T  
**IES-class:** 20 - 46 - 74 - 7 - 83  
**TM5-class:** BZ10/1.00/BZ8

|  |            |          |
|--|------------|----------|
| <b>Divergences in the plane through maximum intensity:</b> | Horizontal | Vertical |
| <b>One half peak divergence</b>                            | -255,9°    | -258,2°  |
| <b>Half peak side angle (left)</b>                         | 128,0°     | 129,1°   |
| <b>Half peak side angle (right)</b>                        | -128,0°    | -129,1°  |
| <b>One tenth peak divergence</b>                           | -198,0°    | -200,2°  |
| <b>Tenth peak side angle (left)</b>                        | 99,0°      | 100,1°   |
| <b>Tenth peak side angle (right)</b>                       | -99,0°     | -100,1°  |

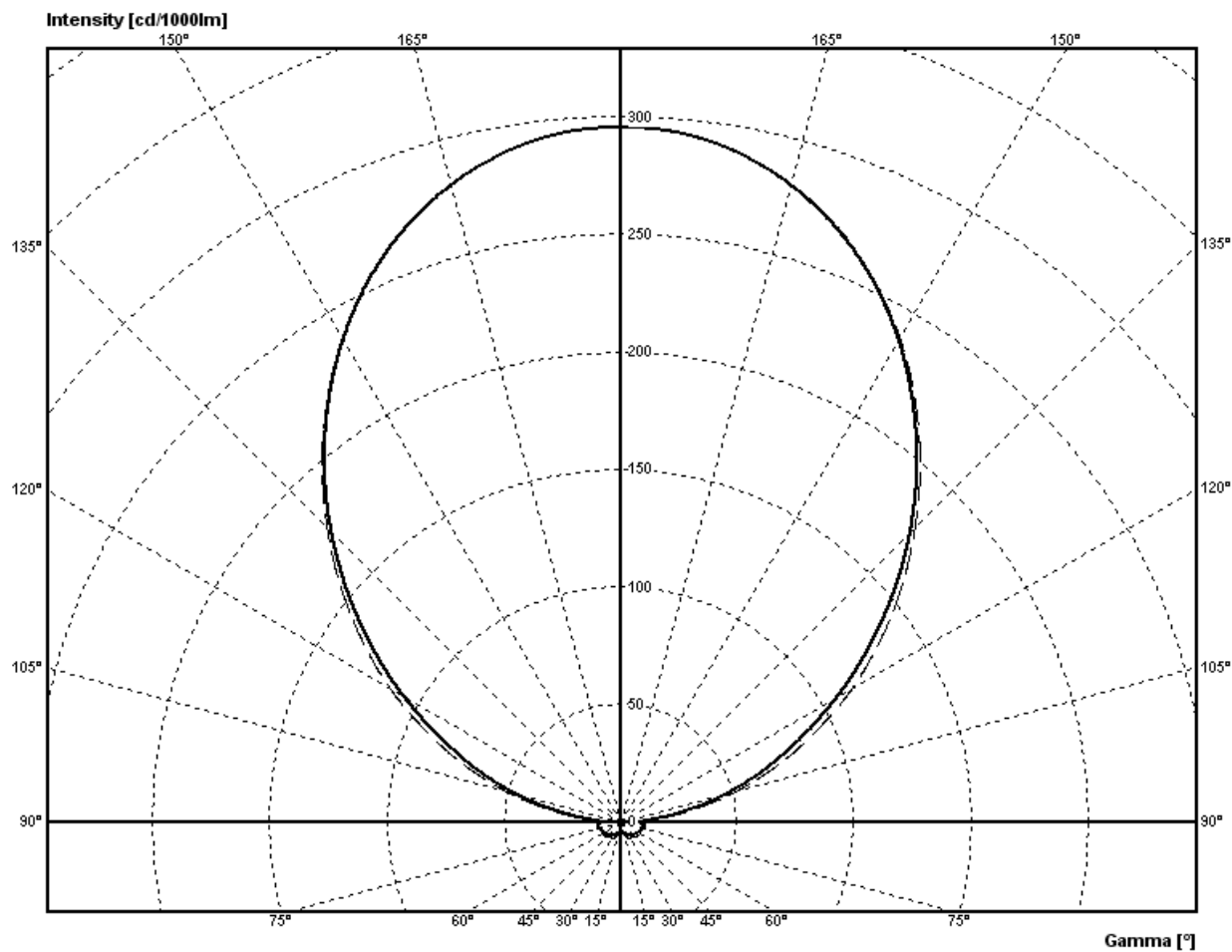
|                  |        |        |        |        |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>C-planes:</b> | 0,0°   | 15,0°  | 30,0°  | 45,0°  | 60,0°  | 75,0°  | 90,0°  | 105,0° | 120,0° | 135,0° |
|                  | 150,0° | 165,0° | 180,0° | 195,0° | 210,0° | 225,0° | 240,0° | 255,0° | 270,0° | 285,0° |
|                  | 300,0° | 315,0° | 330,0° | 345,0° |        |        |        |        |        |        |

|               |        |        |        |        |        |        |        |        |        |        |
|---------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Gamma:</b> | 0,0°   | 5,0°   | 10,0°  | 15,0°  | 20,0°  | 25,0°  | 30,0°  | 35,0°  | 40,0°  | 45,0°  |
|               | 50,0°  | 55,0°  | 60,0°  | 65,0°  | 70,0°  | 75,0°  | 80,0°  | 85,0°  | 90,0°  | 95,0°  |
|               | 100,0° | 105,0° | 110,0° | 115,0° | 120,0° | 125,0° | 130,0° | 135,0° | 140,0° | 145,0° |
|               | 150,0° | 155,0° | 160,0° | 165,0° | 170,0° | 175,0° | 180,0° |        |        |        |

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|            |                            |               |                 |
|------------|----------------------------|---------------|-----------------|
| Name:      | NOAH D650 DAZ 830 Rosewood |               |                 |
| Number:    | 01                         | Diameter:     | 650 mm          |
| Report:    | 25-06-2018                 | Length:       | 0 mm            |
| Meas.-no.: | 01                         | Width:        | 0 mm            |
| Lamp type: | LED 840 - 01               | Height:       | 20 mm           |
| Number:    | 1                          | Power:        | 35,1 W          |
| Lamp flux: | 5868,00 lm                 | Operator:     | INDELAGUE GROUP |
| Date:      | 20-07-2018 16:30:30        | Output ratio: | 83,2 %          |

Polar diagram NOAH D650 DAZ 830 Rosewood / Total in 15° C / 5° G



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|                   |                            |                      |                 |
|-------------------|----------------------------|----------------------|-----------------|
| <b>Name:</b>      | NOAH D650 DAZ 830 Rosewood |                      |                 |
| <b>Number:</b>    | 01                         | <b>Diameter:</b>     | 650 mm          |
| <b>Report:</b>    | 25-06-2018                 | <b>Length:</b>       | 0 mm            |
| <b>Meas.-no.:</b> | 01                         | <b>Width:</b>        | 0 mm            |
| <b>Lamp type:</b> | LED 840 - 01               | <b>Height:</b>       | 20 mm           |
| <b>Number:</b>    | 1                          | <b>Power:</b>        | 35,1 W          |
| <b>Lamp flux:</b> | 5868,00 lm                 | <b>Operator:</b>     | INDELAGUE GROUP |
| <b>Date:</b>      | 20-07-2018 16:30:30        | <b>Output ratio:</b> | 83,2 %          |

## UGR Unified Glare Ratios

|                                 |            |                  |            |            |            |            |                |            |            |            |            |
|---------------------------------|------------|------------------|------------|------------|------------|------------|----------------|------------|------------|------------|------------|
| <b>Ceiling reflectance</b>      |            | <b>0,7</b>       | <b>0,7</b> | <b>0,5</b> | <b>0,5</b> | <b>0,3</b> | <b>0,7</b>     | <b>0,7</b> | <b>0,5</b> | <b>0,5</b> | <b>0,3</b> |
| <b>Wall reflectance</b>         |            | <b>0,5</b>       | <b>0,3</b> | <b>0,5</b> | <b>0,3</b> | <b>0,3</b> | <b>0,5</b>     | <b>0,3</b> | <b>0,5</b> | <b>0,3</b> | <b>0,3</b> |
| <b>Floor cavity reflectance</b> |            | <b>0,2</b>       | <b>0,2</b> | <b>0,2</b> | <b>0,2</b> | <b>0,2</b> | <b>0,2</b>     | <b>0,2</b> | <b>0,2</b> | <b>0,2</b> | <b>0,2</b> |
| <b>Room dimension</b>           |            | Viewed crosswise |            |            |            |            | Viewed endwise |            |            |            |            |
| <b>2H</b>                       | <b>2H</b>  | -4,0             | -3,4       | -2,7       | -2,2       | -0,4       | -3,3           | -2,7       | -2,1       | -1,5       | 0,3        |
| <b>2H</b>                       | <b>3H</b>  | -0,6             | -0,1       | 0,7        | 1,2        | 3,0        | 0,1            | 0,6        | 1,4        | 1,9        | 3,6        |
| <b>2H</b>                       | <b>4H</b>  | 1,3              | 1,8        | 2,5        | 3,0        | 4,8        | 2,0            | 2,5        | 3,2        | 3,7        | 5,5        |
| <b>2H</b>                       | <b>6H</b>  | 3,3              | 3,8        | 4,6        | 5,0        | 6,8        | 3,9            | 4,4        | 5,2        | 5,6        | 7,4        |
| <b>2H</b>                       | <b>8H</b>  | 4,3              | 4,8        | 5,6        | 6,0        | 7,8        | 4,9            | 5,4        | 6,2        | 6,6        | 8,4        |
| <b>2H</b>                       | <b>12H</b> | 5,4              | 5,8        | 6,7        | 7,1        | 8,9        | 5,9            | 6,4        | 7,2        | 7,6        | 9,4        |
| <b>4H</b>                       | <b>2H</b>  | -2,7             | -2,2       | -1,4       | -0,9       | 0,9        | -2,2           | -1,7       | -1,0       | -0,5       | 1,3        |
| <b>4H</b>                       | <b>3H</b>  | 0,7              | 1,2        | 2,0        | 2,4        | 4,2        | 1,3            | 1,7        | 2,5        | 2,9        | 4,7        |
| <b>4H</b>                       | <b>4H</b>  | 2,7              | 3,1        | 4,0        | 4,4        | 6,2        | 3,3            | 3,7        | 4,6        | 4,9        | 6,7        |
| <b>4H</b>                       | <b>6H</b>  | 4,8              | 5,2        | 6,1        | 6,4        | 8,2        | 5,4            | 5,7        | 6,6        | 7,0        | 8,8        |
| <b>4H</b>                       | <b>8H</b>  | 5,9              | 6,2        | 7,2        | 7,5        | 9,3        | 6,4            | 6,8        | 7,7        | 8,0        | 9,8        |
| <b>4H</b>                       | <b>12H</b> | 7,1              | 7,4        | 8,4        | 8,6        | 10,5       | 7,6            | 7,9        | 8,9        | 9,1        | 11,0       |
| <b>8H</b>                       | <b>4H</b>  | 3,5              | 3,8        | 4,8        | 5,1        | 6,9        | 3,9            | 4,2        | 5,2        | 5,5        | 7,3        |
| <b>8H</b>                       | <b>6H</b>  | 5,8              | 6,0        | 7,0        | 7,3        | 9,1        | 6,2            | 6,5        | 7,5        | 7,7        | 9,6        |
| <b>8H</b>                       | <b>8H</b>  | 7,0              | 7,3        | 8,3        | 8,5        | 10,4       | 7,5            | 7,7        | 8,8        | 9,0        | 10,8       |
| <b>8H</b>                       | <b>12H</b> | 8,3              | 8,5        | 9,6        | 9,8        | 11,6       | 8,8            | 9,0        | 10,1       | 10,3       | 12,1       |
| <b>12H</b>                      | <b>4H</b>  | 3,7              | 4,0        | 5,0        | 5,3        | 7,1        | 4,1            | 4,4        | 5,4        | 5,6        | 7,5        |
| <b>12H</b>                      | <b>6H</b>  | 6,1              | 6,3        | 7,4        | 7,6        | 9,5        | 6,5            | 6,7        | 7,8        | 8,0        | 9,9        |
| <b>12H</b>                      | <b>8H</b>  | 7,4              | 7,6        | 8,7        | 8,9        | 10,7       | 7,8            | 8,0        | 9,1        | 9,3        | 11,1       |

UGR values are corrected for lamp flux of 5868 lm by 6,1

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| <b>Number:</b>    | 1                          | <b>Power:</b>        | 35,1 W           |
| <b>Lamp flux:</b> | 5868,00 lm                 | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 20-07-2018 16:30:30        | <b>Output ratio:</b> | 83,2 %           |

Luminance [cd/m<sup>2</sup>] NOAH D650 DAZ 830 Rosewood / Total in 15° C / 5° G

| G/C [cd/ | 0,00    | 15,00   | 30,00   | 45,00   | 60,00   | 75,00   | 90,00   | 105,00  | 120,00  |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 45,00    | 191,67  | 200,63  | 222,00  | 220,38  | 221,44  | 222,67  | 220,85  | 222,67  | 221,44  |
| 50,00    | 219,41  | 230,39  | 251,32  | 251,48  | 254,59  | 255,29  | 253,62  | 255,29  | 254,59  |
| 55,00    | 257,83  | 269,41  | 283,45  | 291,42  | 296,54  | 298,77  | 296,72  | 298,77  | 296,54  |
| 60,00    | 307,60  | 320,47  | 327,45  | 340,32  | 349,94  | 355,41  | 358,05  | 355,41  | 349,94  |
| 65,00    | 374,23  | 388,48  | 392,31  | 401,65  | 420,65  | 430,32  | 433,44  | 430,32  | 420,65  |
| 70,00    | 477,90  | 487,00  | 486,89  | 490,84  | 510,67  | 534,76  | 536,19  | 534,76  | 510,67  |
| 75,00    | 645,96  | 638,34  | 637,39  | 643,41  | 651,95  | 697,03  | 714,97  | 697,03  | 651,95  |
| 80,00    | 972,35  | 912,59  | 914,74  | 943,44  | 959,15  | 989,27  | 1056,68 | 989,27  | 959,15  |
| 85,00    | 1831,32 | 1668,20 | 1685,54 | 1839,20 | 1790,59 | 1833,97 | 1885,96 | 1833,97 | 1790,59 |

| G/C [cd/ | 135,00  | 150,00  | 165,00  | 180,00  | 195,00  | 210,00  | 225,00  | 240,00  | 255,00  |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 45,00    | 220,38  | 222,00  | 200,63  | 191,67  | 200,63  | 222,00  | 220,38  | 221,44  | 222,67  |
| 50,00    | 251,48  | 251,32  | 230,39  | 219,41  | 230,39  | 251,32  | 251,48  | 254,59  | 255,29  |
| 55,00    | 291,42  | 283,45  | 269,41  | 257,83  | 269,41  | 283,45  | 291,42  | 296,54  | 298,77  |
| 60,00    | 340,32  | 327,45  | 320,47  | 307,60  | 320,47  | 327,45  | 340,32  | 349,94  | 355,41  |
| 65,00    | 401,65  | 392,31  | 388,48  | 374,23  | 388,48  | 392,31  | 401,65  | 420,65  | 430,32  |
| 70,00    | 490,84  | 486,89  | 487,00  | 477,90  | 487,00  | 486,89  | 490,84  | 510,67  | 534,76  |
| 75,00    | 643,41  | 637,39  | 638,34  | 645,96  | 638,34  | 637,39  | 643,41  | 651,95  | 697,03  |
| 80,00    | 943,44  | 914,74  | 912,59  | 972,35  | 912,59  | 914,74  | 943,44  | 959,15  | 989,27  |
| 85,00    | 1839,20 | 1685,54 | 1668,20 | 1831,32 | 1668,20 | 1685,54 | 1839,20 | 1790,59 | 1833,97 |

| G/C [cd/ | 270,00  | 285,00  | 300,00  | 315,00  | 330,00  | 345,00  |
|----------|---------|---------|---------|---------|---------|---------|
| 45,00    | 220,85  | 222,67  | 221,44  | 220,38  | 222,00  | 200,63  |
| 50,00    | 253,62  | 255,29  | 254,59  | 251,48  | 251,32  | 230,39  |
| 55,00    | 296,72  | 298,77  | 296,54  | 291,42  | 283,45  | 269,41  |
| 60,00    | 358,05  | 355,41  | 349,94  | 340,32  | 327,45  | 320,47  |
| 65,00    | 433,44  | 430,32  | 420,65  | 401,65  | 392,31  | 388,48  |
| 70,00    | 536,19  | 534,76  | 510,67  | 490,84  | 486,89  | 487,00  |
| 75,00    | 714,97  | 697,03  | 651,95  | 643,41  | 637,39  | 638,34  |
| 80,00    | 1056,68 | 989,27  | 959,15  | 943,44  | 914,74  | 912,59  |
| 85,00    | 1885,96 | 1833,97 | 1790,59 | 1839,20 | 1685,54 | 1668,20 |

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