

## PHOTOMETRIC RESULTS

|                   |  |                      |                  |
|-------------------|--|----------------------|------------------|
| <b>Name:</b>      | REBA 50 /E EXT L0590+INT SYM BGLARE 830 HO |                      |                  |
| <b>Number:</b>    | 90520+90498L002                            | <b>Diameter:</b>     | 0 mm             |
| <b>Report:</b>    | 24-01-2020                                 | <b>Length:</b>       | 590 mm           |
| <b>Meas.-no.:</b> | 01   | <b>Width:</b>        | 62 mm            |
| <b>Lamp type:</b> | LED 830 - 01                               | <b>Height:</b>       | 72 mm            |
| <b>Number:</b>    | 1  | <b>Power:</b>        | 14,71 W          |
| <b>Lamp flux:</b> | 2160,00 lm                                 | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 24-01-2020 9:21:10                         | <b>Output ratio:</b> | 65,3 %           |

## Protocol

**LiTG-class:** A50  
**UTE-class:** 0,65 C  
**IES-class:** 62 - 88 - 97 - 100 - 65  
**TM5-class:** BZ2/1.00/BZ3

## Divergences in the plane through maximum intensity:

|                               | Horizontal | Vertical |
|-------------------------------|------------|----------|
| One half peak divergence      | 79,7°      | 80,2°    |
| Half peak side angle (left)   | -39,9°     | -40,1°   |
| Half peak side angle (right)  | 39,9°      | 40,1°    |
| One tenth peak divergence     | 134,5°     | 141,4°   |
| Tenth peak side angle (left)  | -67,3°     | -70,7°   |
| Tenth peak side angle (right) | 67,3°      | 70,7°    |

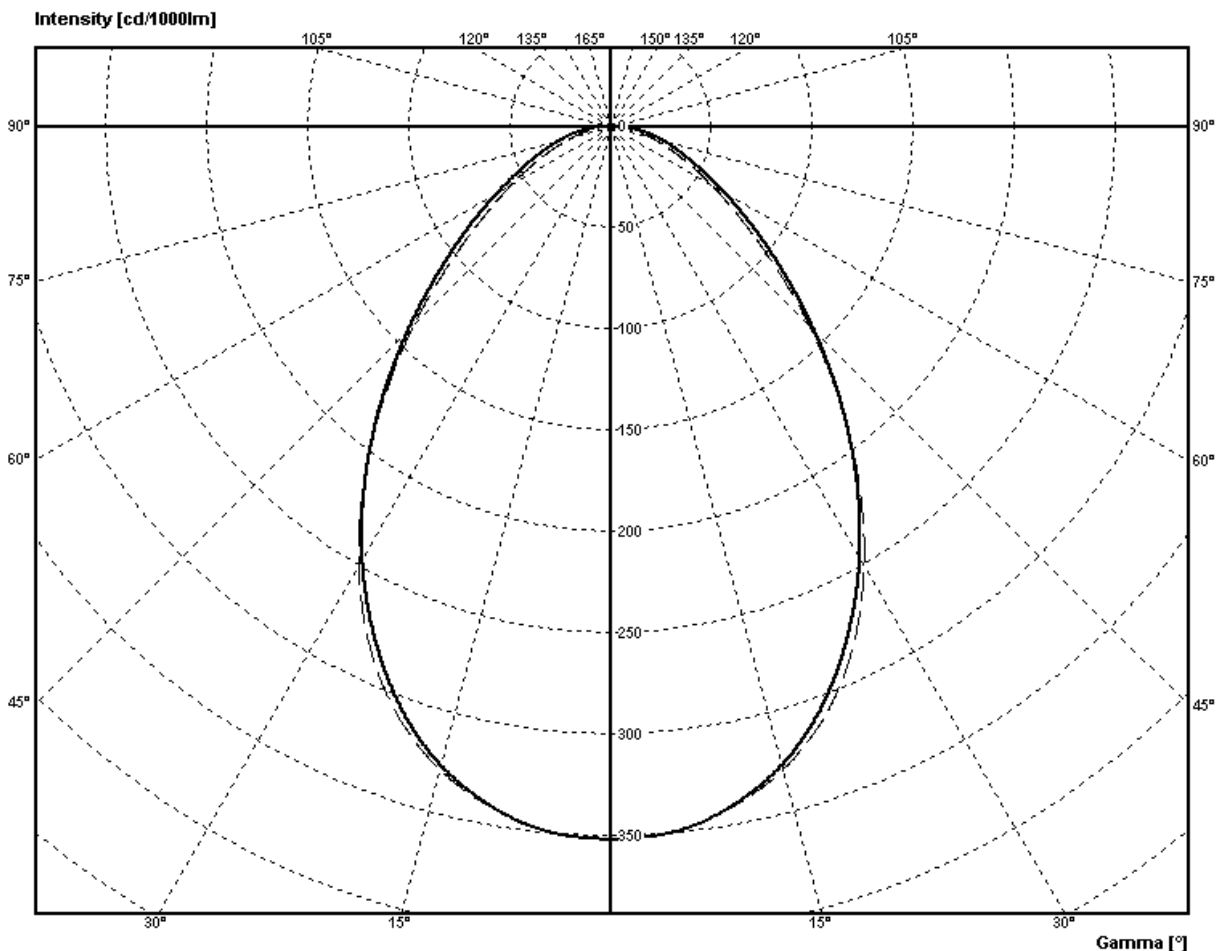
|                  |        |        |        |        |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>C-planes:</b> | 0,0°   | 15,0°  | 30,0°  | 45,0°  | 60,0°  | 75,0°  | 90,0°  | 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° |       |

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| Number:    | 90520+90498L002                            | Diameter:     | 0 mm             |
| Report:    | 24-01-2020                                 | Length:       | 590 mm           |
| Meas.-no.: | 01   | Width:        | 62 mm            |
| Lamp type: | LED 830 - 01                               | Height:       | 72 mm            |
| Number:    | 1  | Power:        | 14,71 W          |
| Lamp flux: | 2160,00 lm                                 | Operator:     | INDEL AGUE GROUP |
| Date:      | 24-01-2020 9:21:10                         | Output ratio: | 65,3 %           |

Polar diagram REBA 50 /E EXT L0590+INT SYM BGLARE 830 HO / Direct in 15° C / 5° G



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| <b>Number:</b>    | 90520+90498L002                            | <b>Diameter:</b>     | 0 mm            |
| <b>Report:</b>    | 24-01-2020                                 | <b>Length:</b>       | 590 mm          |
| <b>Meas.-no.:</b> | 01   | <b>Width:</b>        | 62 mm           |
| <b>Lamp type:</b> | LED 830 - 01                               | <b>Height:</b>       | 72 mm           |
| <b>Number:</b>    | 1  | <b>Power:</b>        | 14,71 W         |
| <b>Lamp flux:</b> | 2160,00 lm                                 | <b>Operator:</b>     | INDELAGUE GROUP |
| <b>Date:</b>      | 24-01-2020 9:21:10                         | <b>Output ratio:</b> | 65,3 %          |

## 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>  | 17,0             | 18,4       | 17,3       | 18,7       | 19,1       | 18,4           | 19,9       | 18,8       | 20,2       | 20,5       |
| <b>2H</b>                       | <b>3H</b>  | 17,5             | 18,8       | 17,9       | 19,2       | 19,5       | 19,0           | 20,3       | 19,4       | 20,7       | 21,0       |
| <b>2H</b>                       | <b>4H</b>  | 17,7             | 19,0       | 18,1       | 19,3       | 19,7       | 19,3           | 20,5       | 19,7       | 20,9       | 21,2       |
| <b>2H</b>                       | <b>6H</b>  | 17,9             | 19,0       | 18,3       | 19,4       | 19,8       | 19,5           | 20,6       | 19,9       | 21,0       | 21,4       |
| <b>2H</b>                       | <b>8H</b>  | 17,9             | 19,0       | 18,3       | 19,4       | 19,8       | 19,5           | 20,6       | 19,9       | 20,9       | 21,3       |
| <b>2H</b>                       | <b>12H</b> | 17,9             | 18,9       | 18,3       | 19,3       | 19,7       | 19,5           | 20,5       | 19,9       | 20,9       | 21,3       |
| <b>4H</b>                       | <b>2H</b>  | 17,3             | 18,5       | 17,7       | 18,9       | 19,2       | 18,5           | 19,8       | 18,9       | 20,1       | 20,5       |
| <b>4H</b>                       | <b>3H</b>  | 18,0             | 19,0       | 18,4       | 19,4       | 19,8       | 19,3           | 20,3       | 19,7       | 20,7       | 21,1       |
| <b>4H</b>                       | <b>4H</b>  | 18,3             | 19,2       | 18,7       | 19,6       | 20,1       | 19,6           | 20,5       | 20,1       | 20,9       | 21,4       |
| <b>4H</b>                       | <b>6H</b>  | 18,5             | 19,3       | 19,0       | 19,8       | 20,2       | 19,8           | 20,6       | 20,3       | 21,1       | 21,5       |
| <b>4H</b>                       | <b>8H</b>  | 18,6             | 19,3       | 19,0       | 19,8       | 20,2       | 19,9           | 20,6       | 20,4       | 21,1       | 21,6       |
| <b>4H</b>                       | <b>12H</b> | 18,6             | 19,3       | 19,1       | 19,7       | 20,2       | 19,9           | 20,6       | 20,4       | 21,1       | 21,6       |
| <b>8H</b>                       | <b>4H</b>  | 18,4             | 19,1       | 18,8       | 19,6       | 20,0       | 19,6           | 20,4       | 20,1       | 20,8       | 21,3       |
| <b>8H</b>                       | <b>6H</b>  | 18,6             | 19,3       | 19,1       | 19,7       | 20,2       | 19,9           | 20,5       | 20,3       | 21,0       | 21,5       |
| <b>8H</b>                       | <b>8H</b>  | 18,8             | 19,3       | 19,3       | 19,8       | 20,3       | 20,0           | 20,6       | 20,5       | 21,1       | 21,6       |
| <b>8H</b>                       | <b>12H</b> | 18,8             | 19,3       | 19,4       | 19,8       | 20,3       | 20,1           | 20,5       | 20,6       | 21,0       | 21,6       |
| <b>12H</b>                      | <b>4H</b>  | 18,4             | 19,1       | 18,8       | 19,5       | 20,0       | 19,6           | 20,3       | 20,1       | 20,7       | 21,2       |
| <b>12H</b>                      | <b>6H</b>  | 18,7             | 19,2       | 19,2       | 19,7       | 20,2       | 19,9           | 20,4       | 20,4       | 21,0       | 21,4       |
| <b>12H</b>                      | <b>8H</b>  | 18,8             | 19,3       | 19,3       | 19,8       | 20,3       | 20,0           | 20,5       | 20,5       | 21,0       | 21,5       |

UGR values are corrected for lamp flux of 2160 lm by 2,7

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| <b>Lamp type:</b> | LED 830 - 01                                      | <b>Height:</b>       | 72 mm            |
| <b>Number:</b>    | 1   | <b>Power:</b>        | 14,71 W          |
| <b>Lamp flux:</b> | 2160,00 lm  | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 24-01-2020 9:21:10                                | <b>Output ratio:</b> | 65,3 %           |

Luminance [cd/m<sup>2</sup>] REBA 50 /E EXT L0590+INT SYM BGLARE 830 HO / Direct 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    | 6534,66 | 6598,86 | 7052,55 | 7882,29 | 9021,65 | 10818,5 | 14430,8 | 10818,5 | 9021,65 |
| 50,00    | 5035,26 | 5007,05 | 5347,78 | 6009,76 | 6961,26 | 8440,52 | 11683,8 | 8440,52 | 6961,26 |
| 55,00    | 3845,35 | 3773,43 | 4046,47 | 4509,69 | 5284,97 | 6476,51 | 9396,87 | 6476,51 | 5284,97 |
| 60,00    | 2902,34 | 2822,79 | 3068,40 | 3359,98 | 3972,07 | 4963,96 | 7707,04 | 4963,96 | 3972,07 |
| 65,00    | 2199,14 | 2148,38 | 2308,99 | 2470,37 | 2958,74 | 3773,53 | 6313,77 | 3773,53 | 2958,74 |
| 70,00    | 1680,67 | 1667,05 | 1750,15 | 1843,90 | 2200,15 | 2889,65 | 5134,68 | 2889,65 | 2200,15 |
| 75,00    | 1267,86 | 1255,08 | 1316,90 | 1374,68 | 1628,08 | 2180,73 | 4218,87 | 2180,73 | 1628,08 |
| 80,00    | 888,23  | 876,15  | 924,68  | 950,63  | 1126,22 | 1524,90 | 3203,29 | 1524,90 | 1126,22 |
| 85,00    | 478,87  | 475,06  | 515,08  | 531,00  | 620,72  | 824,41  | 1925,23 | 824,41  | 620,72  |

| G/C [cd/ | 135,00  | 150,00  | 165,00  | 180,00  | 195,00  | 210,00  | 225,00  | 240,00  | 255,00  |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 45,00    | 7882,29 | 7052,55 | 6598,86 | 6534,66 | 6598,86 | 7052,55 | 7882,29 | 9021,65 | 10818,5 |
| 50,00    | 6009,76 | 5347,78 | 5007,05 | 5035,26 | 5007,05 | 5347,78 | 6009,76 | 6961,26 | 8440,52 |
| 55,00    | 4509,69 | 4046,47 | 3773,43 | 3845,35 | 3773,43 | 4046,47 | 4509,69 | 5284,97 | 6476,51 |
| 60,00    | 3359,98 | 3068,40 | 2822,79 | 2902,34 | 2822,79 | 3068,40 | 3359,98 | 3972,07 | 4963,96 |
| 65,00    | 2470,37 | 2308,99 | 2148,38 | 2199,14 | 2148,38 | 2308,99 | 2470,37 | 2958,74 | 3773,53 |
| 70,00    | 1843,90 | 1750,15 | 1667,05 | 1680,67 | 1667,05 | 1750,15 | 1843,90 | 2200,15 | 2889,65 |
| 75,00    | 1374,68 | 1316,90 | 1255,08 | 1267,86 | 1255,08 | 1316,90 | 1374,68 | 1628,08 | 2180,73 |
| 80,00    | 950,63  | 924,68  | 876,15  | 888,23  | 876,15  | 924,68  | 950,63  | 1126,22 | 1524,90 |
| 85,00    | 531,00  | 515,08  | 475,06  | 478,87  | 475,06  | 515,08  | 531,00  | 620,72  | 824,41  |

| G/C [cd/ | 270,00  | 285,00  | 300,00  | 315,00  | 330,00  | 345,00  |
|----------|---------|---------|---------|---------|---------|---------|
| 45,00    | 14430,8 | 10818,5 | 9021,65 | 7882,29 | 7052,55 | 6598,86 |
| 50,00    | 11683,8 | 8440,52 | 6961,26 | 6009,76 | 5347,78 | 5007,05 |
| 55,00    | 9396,87 | 6476,51 | 5284,97 | 4509,69 | 4046,47 | 3773,43 |
| 60,00    | 7707,04 | 4963,96 | 3972,07 | 3359,98 | 3068,40 | 2822,79 |
| 65,00    | 6313,77 | 3773,53 | 2958,74 | 2470,37 | 2308,99 | 2148,38 |
| 70,00    | 5134,68 | 2889,65 | 2200,15 | 1843,90 | 1750,15 | 1667,05 |
| 75,00    | 4218,87 | 2180,73 | 1628,08 | 1374,68 | 1316,90 | 1255,08 |
| 80,00    | 3203,29 | 1524,90 | 1126,22 | 950,63  | 924,68  | 876,15  |
| 85,00    | 1925,23 | 824,41  | 620,72  | 531,00  | 515,08  | 475,06  |

## HEADQUARTERS

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