

## PHOTOMETRIC RESULTS

|                   |                                                           |                      |                  |
|-------------------|-----------------------------------------------------------|----------------------|------------------|
| <b>Name:</b>      | <b>REBA 50 /T EXT LINE L1964 MID+INT SYM BLINE 830 HO</b> |                      |                  |
| <b>Number:</b>    | 90507+90497L007                                           | <b>Diameter:</b>     | 0 mm             |
| <b>Report:</b>    | 24-01-2020                                                | <b>Length:</b>       | 1964 mm          |
| <b>Meas.-no.:</b> | 01                                                        | <b>Width:</b>        | 70 mm            |
| <b>Lamp type:</b> | LED 830 - 01                                              | <b>Height:</b>       | 114 mm           |
| <b>Number:</b>    | 01                                                        | <b>Power:</b>        | 50,77 W          |
| <b>Lamp flux:</b> | 7560,00 lm                                                | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 24-01-2020 14:27:36                                       | <b>Output ratio:</b> | 63,1 %           |

## Protocol

**LiTG-class:** A40  
**UTE-class:** 0,63 E  
**IES-class:** 50 - 80 - 95 - 100 - 63  
**TM5-class:** BZ5/0.75/BZ4

|                                                            |            |          |
|------------------------------------------------------------|------------|----------|
| <b>Divergences in the plane through maximum intensity:</b> | Horizontal | Vertical |
| <b>One half peak divergence</b>                            | 102,1°     | 100,2°   |
| <b>Half peak side angle (left)</b>                         | -51,0°     | -50,1°   |
| <b>Half peak side angle (right)</b>                        | 51,0°      | 50,1°    |
| <b>One tenth peak divergence</b>                           | 157,2°     | 160,5°   |
| <b>Tenth peak side angle (left)</b>                        | -78,6°     | -80,3°   |
| <b>Tenth peak side angle (right)</b>                       | 78,6°      | 80,3°    |

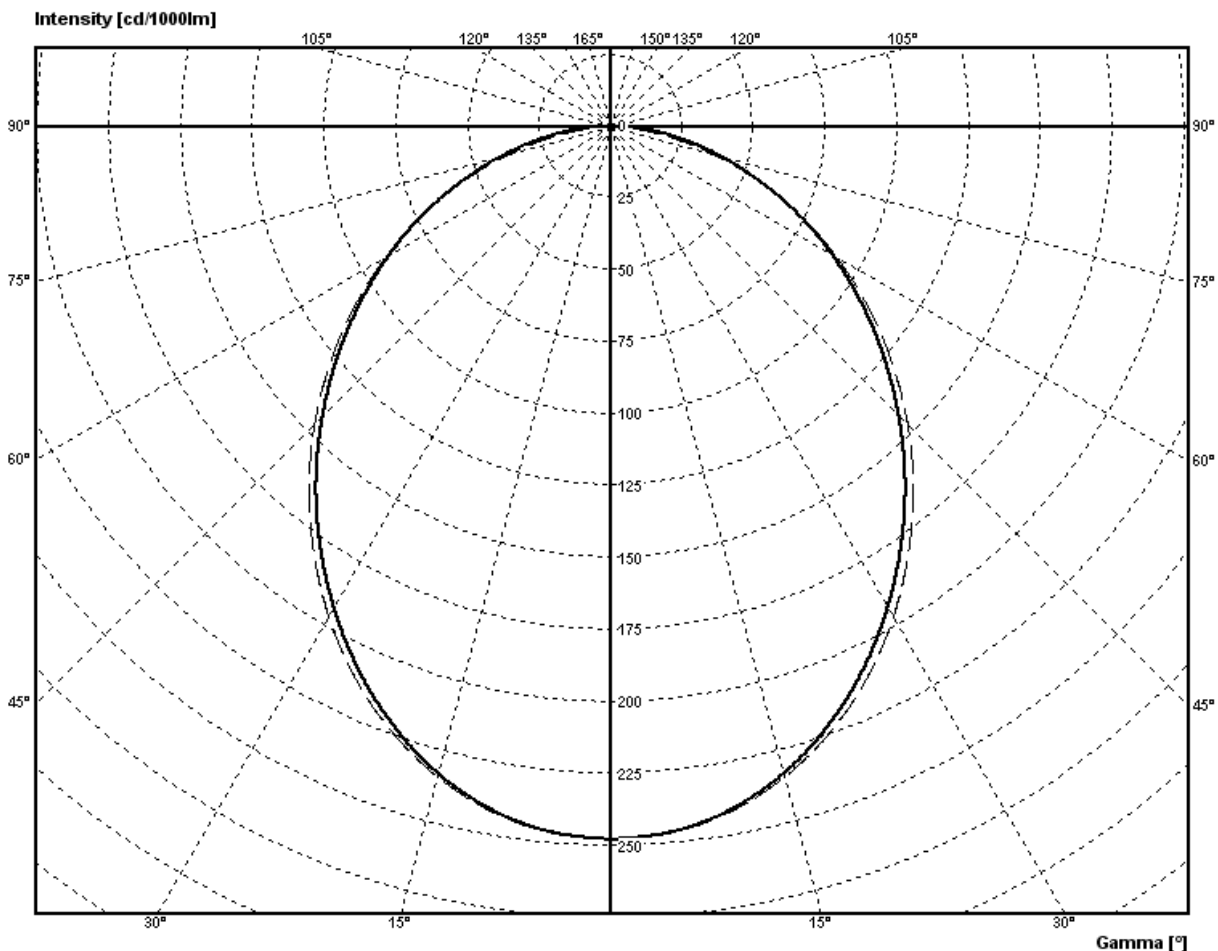
|                  |        |        |        |        |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>C-planes:</b> | 0,0°   | 15,0°  | 30,0°  | 45,0°  | 60,0°  | 75,0°  | 90,0°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

## PHOTOMETRIC RESULTS

|            |                                                    |               |                 |
|------------|----------------------------------------------------|---------------|-----------------|
| Name:      | REBA 50 /T EXT LINE L1964 MID+INT SYM BLINE 830 HO |               |                 |
| Number:    | 90507+90497L007                                    | Diameter:     | 0 mm            |
| Report:    | 24-01-2020                                         | Length:       | 1964 mm         |
| Meas.-no.: | 01                                                 | Width:        | 70 mm           |
| Lamp type: | LED 830 - 01                                       | Height:       | 114 mm          |
| Number:    | 01                                                 | Power:        | 50,77 W         |
| Lamp flux: | 7560,00 lm                                         | Operator:     | INDELAGUE GROUP |
| Date:      | 24-01-2020 14:27:36                                | Output ratio: | 63,1 %          |

Polar diagram REBA 50 /T EXT LINE L1964 MID+INT SYM BLINE 830 HO / Direct in 15° C / 5° G



## PHOTOMETRIC RESULTS

|                   |                                                           |                      |                  |
|-------------------|-----------------------------------------------------------|----------------------|------------------|
| <b>Name:</b>      | <b>REBA 50 /T EXT LINE L1964 MID+INT SYM BLINE 830 HO</b> |                      |                  |
| <b>Number:</b>    | 90507+90497L007                                           | <b>Diameter:</b>     | 0 mm             |
| <b>Report:</b>    | 24-01-2020                                                | <b>Length:</b>       | 1964 mm          |
| <b>Meas.-no.:</b> | 01                                                        | <b>Width:</b>        | 70 mm            |
| <b>Lamp type:</b> | LED 830 - 01                                              | <b>Height:</b>       | 114 mm           |
| <b>Number:</b>    | 01                                                        | <b>Power:</b>        | 50,77 W          |
| <b>Lamp flux:</b> | 7560,00 lm                                                | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 24-01-2020 14:27:36                                       | <b>Output ratio:</b> | 63,1 %           |

## 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>  | 16,9             | 18,5       | 17,2       | 18,8       | 19,1       | 19,5           | 21,1       | 19,9       | 21,4       | 21,7       |
| <b>2H</b>                       | <b>3H</b>  | 17,8             | 19,3       | 18,2       | 19,6       | 19,9       | 20,9           | 22,4       | 21,3       | 22,7       | 23,0       |
| <b>2H</b>                       | <b>4H</b>  | 18,1             | 19,5       | 18,5       | 19,8       | 20,2       | 21,4           | 22,8       | 21,8       | 23,1       | 23,5       |
| <b>2H</b>                       | <b>6H</b>  | 18,3             | 19,6       | 18,7       | 20,0       | 20,4       | 21,8           | 23,0       | 22,2       | 23,4       | 23,8       |
| <b>2H</b>                       | <b>8H</b>  | 18,3             | 19,6       | 18,7       | 19,9       | 20,3       | 21,8           | 23,1       | 22,2       | 23,4       | 23,8       |
| <b>2H</b>                       | <b>12H</b> | 18,3             | 19,5       | 18,8       | 19,9       | 20,3       | 21,9           | 23,0       | 22,3       | 23,4       | 23,8       |
| <b>4H</b>                       | <b>2H</b>  | 17,5             | 18,9       | 17,9       | 19,3       | 19,6       | 19,7           | 21,1       | 20,1       | 21,5       | 21,8       |
| <b>4H</b>                       | <b>3H</b>  | 18,6             | 19,8       | 19,0       | 20,1       | 20,6       | 21,2           | 22,4       | 21,6       | 22,8       | 23,2       |
| <b>4H</b>                       | <b>4H</b>  | 19,0             | 20,1       | 19,5       | 20,5       | 20,9       | 21,8           | 22,9       | 22,3       | 23,3       | 23,7       |
| <b>4H</b>                       | <b>6H</b>  | 19,3             | 20,2       | 19,7       | 20,6       | 21,1       | 22,2           | 23,1       | 22,7       | 23,6       | 24,0       |
| <b>4H</b>                       | <b>8H</b>  | 19,3             | 20,2       | 19,8       | 20,6       | 21,1       | 22,3           | 23,2       | 22,8       | 23,6       | 24,1       |
| <b>4H</b>                       | <b>12H</b> | 19,4             | 20,2       | 19,9       | 20,6       | 21,1       | 22,4           | 23,2       | 22,9       | 23,6       | 24,1       |
| <b>8H</b>                       | <b>4H</b>  | 19,2             | 20,1       | 19,7       | 20,5       | 21,0       | 21,8           | 22,7       | 22,3       | 23,2       | 23,6       |
| <b>8H</b>                       | <b>6H</b>  | 19,5             | 20,3       | 20,0       | 20,7       | 21,2       | 22,2           | 23,0       | 22,7       | 23,5       | 23,9       |
| <b>8H</b>                       | <b>8H</b>  | 19,7             | 20,3       | 20,2       | 20,8       | 21,3       | 22,5           | 23,1       | 23,0       | 23,6       | 24,1       |
| <b>8H</b>                       | <b>12H</b> | 19,8             | 20,3       | 20,3       | 20,8       | 21,3       | 22,5           | 23,1       | 23,1       | 23,6       | 24,1       |
| <b>12H</b>                      | <b>4H</b>  | 19,2             | 20,0       | 19,7       | 20,5       | 21,0       | 21,8           | 22,6       | 22,3       | 23,1       | 23,6       |
| <b>12H</b>                      | <b>6H</b>  | 19,6             | 20,2       | 20,1       | 20,7       | 21,2       | 22,3           | 22,9       | 22,8       | 23,4       | 23,9       |
| <b>12H</b>                      | <b>8H</b>  | 19,7             | 20,3       | 20,3       | 20,8       | 21,3       | 22,5           | 23,0       | 23,0       | 23,5       | 24,0       |

UGR values are corrected for lamp flux of 7560 lm by 7,0

## PHOTOMETRIC RESULTS

|                   |                                                           |                      |                  |
|-------------------|-----------------------------------------------------------|----------------------|------------------|
| <b>Name:</b>      | <b>REBA 50 /T EXT LINE L1964 MID+INT SYM BLINE 830 HO</b> |                      |                  |
| <b>Number:</b>    | 90507+90497L007                                           | <b>Diameter:</b>     | 0 mm             |
| <b>Report:</b>    | 24-01-2020                                                | <b>Length:</b>       | 1964 mm          |
| <b>Meas.-no.:</b> | 01                                                        | <b>Width:</b>        | 70 mm            |
| <b>Lamp type:</b> | LED 830 - 01                                              | <b>Height:</b>       | 114 mm           |
| <b>Number:</b>    | 01                                                        | <b>Power:</b>        | 50,77 W          |
| <b>Lamp flux:</b> | 7560,00 lm                                                | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 24-01-2020 14:27:36                                       | <b>Output ratio:</b> | 63,1 %           |

Luminance [cd/m<sup>2</sup>] REBA 50 /T EXT LINE L1964 MID+INT SYM BLINE 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    | 4824,91 | 4930,09 | 5326,92 | 6104,00 | 7493,90 | 10144,9 | 16319,5 | 10144,9 | 7493,90 |
| 50,00    | 4086,98 | 4182,38 | 4533,91 | 5231,19 | 6517,12 | 9050,11 | 15540,0 | 9050,11 | 6517,12 |
| 55,00    | 3420,26 | 3508,42 | 3813,24 | 4431,40 | 5584,23 | 7976,03 | 14699,7 | 7976,03 | 5584,23 |
| 60,00    | 2820,73 | 2888,89 | 3150,82 | 3676,13 | 4696,51 | 6872,68 | 13788,7 | 6872,68 | 4696,51 |
| 65,00    | 2259,60 | 2314,16 | 2524,36 | 2960,66 | 3817,28 | 5729,75 | 12705,4 | 5729,75 | 3817,28 |
| 70,00    | 1730,81 | 1775,42 | 1935,94 | 2275,28 | 2955,79 | 4547,58 | 11351,8 | 4547,58 | 2955,79 |
| 75,00    | 1247,28 | 1273,18 | 1386,42 | 1619,77 | 2109,90 | 3301,14 | 9629,92 | 3301,14 | 2109,90 |
| 80,00    | 811,41  | 821,41  | 890,03  | 1019,57 | 1313,27 | 2061,92 | 7350,16 | 2061,92 | 1313,27 |
| 85,00    | 438,44  | 439,90  | 467,56  | 516,19  | 639,92  | 942,59  | 4468,74 | 942,59  | 639,92  |

| G/C [cd/ | 135,00  | 150,00  | 165,00  | 180,00  | 195,00  | 210,00  | 225,00  | 240,00  | 255,00  |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 45,00    | 6104,00 | 5326,92 | 4930,09 | 4824,91 | 4930,09 | 5326,92 | 6104,00 | 7493,90 | 10144,9 |
| 50,00    | 5231,19 | 4533,91 | 4182,38 | 4086,98 | 4182,38 | 4533,91 | 5231,19 | 6517,12 | 9050,11 |
| 55,00    | 4431,40 | 3813,24 | 3508,42 | 3420,26 | 3508,42 | 3813,24 | 4431,40 | 5584,23 | 7976,03 |
| 60,00    | 3676,13 | 3150,82 | 2888,89 | 2820,73 | 2888,89 | 3150,82 | 3676,13 | 4696,51 | 6872,68 |
| 65,00    | 2960,66 | 2524,36 | 2314,16 | 2259,60 | 2314,16 | 2524,36 | 2960,66 | 3817,28 | 5729,75 |
| 70,00    | 2275,28 | 1935,94 | 1775,42 | 1730,81 | 1775,42 | 1935,94 | 2275,28 | 2955,79 | 4547,58 |
| 75,00    | 1619,77 | 1386,42 | 1273,18 | 1247,28 | 1273,18 | 1386,42 | 1619,77 | 2109,90 | 3301,14 |
| 80,00    | 1019,57 | 890,03  | 821,41  | 811,41  | 821,41  | 890,03  | 1019,57 | 1313,27 | 2061,92 |
| 85,00    | 516,19  | 467,56  | 439,90  | 438,44  | 439,90  | 467,56  | 516,19  | 639,92  | 942,59  |

| G/C [cd/ | 270,00  | 285,00  | 300,00  | 315,00  | 330,00  | 345,00  |
|----------|---------|---------|---------|---------|---------|---------|
| 45,00    | 16319,5 | 10144,9 | 7493,90 | 6104,00 | 5326,92 | 4930,09 |
| 50,00    | 15540,0 | 9050,11 | 6517,12 | 5231,19 | 4533,91 | 4182,38 |
| 55,00    | 14699,7 | 7976,03 | 5584,23 | 4431,40 | 3813,24 | 3508,42 |
| 60,00    | 13788,7 | 6872,68 | 4696,51 | 3676,13 | 3150,82 | 2888,89 |
| 65,00    | 12705,4 | 5729,75 | 3817,28 | 2960,66 | 2524,36 | 2314,16 |
| 70,00    | 11351,8 | 4547,58 | 2955,79 | 2275,28 | 1935,94 | 1775,42 |
| 75,00    | 9629,92 | 3301,14 | 2109,90 | 1619,77 | 1386,42 | 1273,18 |
| 80,00    | 7350,16 | 2061,92 | 1313,27 | 1019,57 | 890,03  | 821,41  |
| 85,00    | 4468,74 | 942,59  | 639,92  | 516,19  | 467,56  | 439,90  |

## HEADQUARTERS

INDÚSTRIA ELÉTRICA DE ÁGUEDA S.A.

Rua da Mina 465 | Covão | Zona industrial EN1 Norte

3750-792 Trofa ÁGUEDA | PORTUGAL

www.indelague.com | www.roxolighting.com

indelague@indelague.pt | roxo.london@roxolighting.com

Tel. (+351) 234 612 310

Fax (+351) 234 624 058