

## PHOTOMETRIC RESULTS

|                   |                                             |                      |                  |
|-------------------|---------------------------------------------|----------------------|------------------|
| <b>Name:</b>      | <b>TTP 50 LINE L1180 TUP 830 SRT/MID LO</b> |                      |                  |
| <b>Number:</b>    | 90485L120-58                                | <b>Diameter:</b>     | 0 mm             |
| <b>Report:</b>    | 09-01-2020                                  | <b>Length:</b>       | 1180 mm          |
| <b>Meas.-no.:</b> | 01                                          | <b>Width:</b>        | 50 mm            |
| <b>Lamp type:</b> | LED 830 - 01                                | <b>Height:</b>       | 50 mm            |
| <b>Number:</b>    | 1                                           | <b>Power:</b>        | 22,99 W          |
| <b>Lamp flux:</b> | 3440,00 lm                                  | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 09-01-2020 18:00:30                         | <b>Output ratio:</b> | 95,3 %           |

## Protocol

**LiTG-class:** A42  
**UTE-class:** 0,93 E + 0,02 T  
**IES-class:** 48 - 80 - 96 - 98 - 95  
**TM5-class:** BZ4

## Divergences in the plane through maximum intensity:

|                               | Horizontal | Vertical |
|-------------------------------|------------|----------|
| One half peak divergence      | 113,0°     | 113,5°   |
| Half peak side angle (left)   | -58,3°     | -55,4°   |
| Half peak side angle (right)  | 54,7°      | 58,2°    |
| One tenth peak divergence     | 155,7°     | 159,1°   |
| Tenth peak side angle (left)  | -79,9°     | -78,0°   |
| Tenth peak side angle (right) | 75,8°      | 81,2°    |

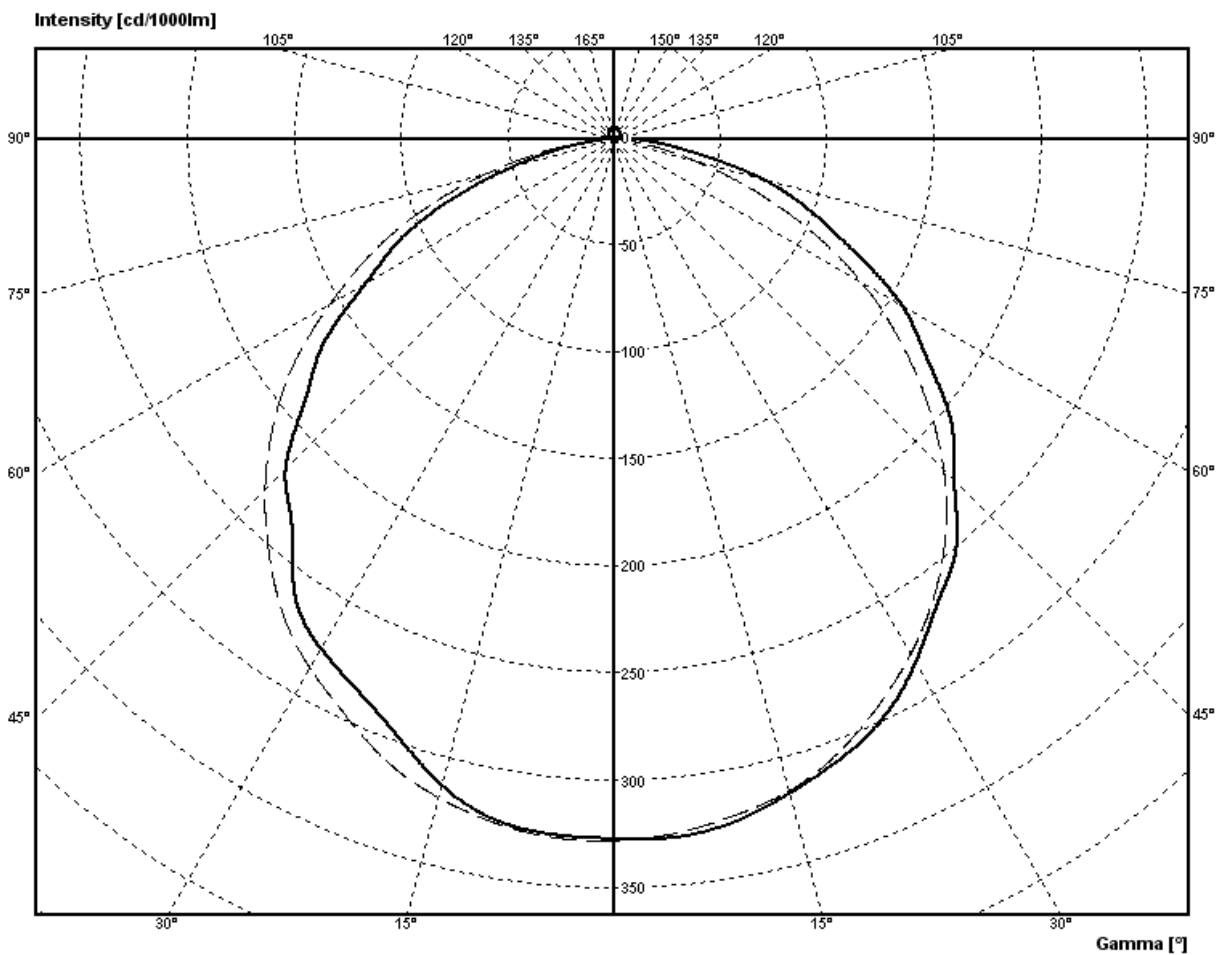
|                  |        |        |        |        |        |        |        |        |        |        |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>C-planes:</b> | 0,0°   | 15,0°  | 30,0°  | 45,0°  | 60,0°  | 75,0°  | 90,0°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

## PHOTOMETRIC RESULTS

|            |                                      |               |                 |
|------------|--------------------------------------|---------------|-----------------|
| Name:      | TTP 50 LINE L1180 TUP 830 SRT/MID LO |               |                 |
| Number:    | 90485L120-58                         | Diameter:     | 0 mm            |
| Report:    | 09-01-2020                           | Length:       | 1180 mm         |
| Meas.-no.: | 01                                   | Width:        | 50 mm           |
| Lamp type: | LED 830 - 01                         | Height:       | 50 mm           |
| Number:    | 1                                    | Power:        | 22,99 W         |
| Lamp flux: | 3440,00 lm                           | Operator:     | INDELAGUE GROUP |
| Date:      | 09-01-2020 18:00:30                  | Output ratio: | 95,3 %          |

Polar diagram TTP 50 LINE L1180 TUP 830 SRT/MID LO / Total in 15° C / 5° G



## PHOTOMETRIC RESULTS

|                   |                                             |                      |                  |
|-------------------|---------------------------------------------|----------------------|------------------|
| <b>Name:</b>      | <b>TTP 50 LINE L1180 TUP 830 SRT/MID LO</b> |                      |                  |
| <b>Number:</b>    | 90485L120-58                                | <b>Diameter:</b>     | 0 mm             |
| <b>Report:</b>    | 09-01-2020                                  | <b>Length:</b>       | 1180 mm          |
| <b>Meas.-no.:</b> | 01                                          | <b>Width:</b>        | 50 mm            |
| <b>Lamp type:</b> | LED 830 - 01                                | <b>Height:</b>       | 50 mm            |
| <b>Number:</b>    | 1                                           | <b>Power:</b>        | 22,99 W          |
| <b>Lamp flux:</b> | 3440,00 lm                                  | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 09-01-2020 18:00:30                         | <b>Output ratio:</b> | 95,3 %           |

## 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>  | 19,3             | 20,9       | 19,7       | 21,3       | 21,7       | 20,9           | 22,4       | 21,2       | 22,8       | 23,2       |
| <b>2H</b>                       | <b>3H</b>  | 20,4             | 21,8       | 20,8       | 22,2       | 22,6       | 22,1           | 23,6       | 22,6       | 24,0       | 24,4       |
| <b>2H</b>                       | <b>4H</b>  | 20,8             | 22,1       | 21,2       | 22,5       | 22,9       | 22,6           | 23,9       | 23,0       | 24,3       | 24,7       |
| <b>2H</b>                       | <b>6H</b>  | 20,9             | 22,2       | 21,4       | 22,6       | 23,0       | 22,8           | 24,0       | 23,2       | 24,5       | 24,9       |
| <b>2H</b>                       | <b>8H</b>  | 20,9             | 22,1       | 21,3       | 22,5       | 23,0       | 22,8           | 24,0       | 23,3       | 24,4       | 24,9       |
| <b>2H</b>                       | <b>12H</b> | 20,9             | 22,0       | 21,3       | 22,5       | 22,9       | 22,8           | 24,0       | 23,2       | 24,4       | 24,8       |
| <b>4H</b>                       | <b>2H</b>  | 20,0             | 21,4       | 20,4       | 21,8       | 22,2       | 21,2           | 22,6       | 21,7       | 23,0       | 23,4       |
| <b>4H</b>                       | <b>3H</b>  | 21,2             | 22,4       | 21,7       | 22,8       | 23,2       | 22,6           | 23,8       | 23,1       | 24,2       | 24,7       |
| <b>4H</b>                       | <b>4H</b>  | 21,7             | 22,7       | 22,1       | 23,1       | 23,6       | 23,2           | 24,2       | 23,6       | 24,6       | 25,1       |
| <b>4H</b>                       | <b>6H</b>  | 21,8             | 22,7       | 22,3       | 23,2       | 23,7       | 23,4           | 24,3       | 23,9       | 24,8       | 25,3       |
| <b>4H</b>                       | <b>8H</b>  | 21,9             | 22,7       | 22,4       | 23,2       | 23,7       | 23,5           | 24,3       | 24,0       | 24,8       | 25,3       |
| <b>4H</b>                       | <b>12H</b> | 21,9             | 22,7       | 22,4       | 23,1       | 23,7       | 23,5           | 24,3       | 24,0       | 24,8       | 25,3       |
| <b>8H</b>                       | <b>4H</b>  | 21,8             | 22,7       | 22,3       | 23,2       | 23,7       | 23,2           | 24,1       | 23,8       | 24,6       | 25,1       |
| <b>8H</b>                       | <b>6H</b>  | 22,1             | 22,8       | 22,6       | 23,3       | 23,8       | 23,5           | 24,3       | 24,1       | 24,8       | 25,3       |
| <b>8H</b>                       | <b>8H</b>  | 22,2             | 22,8       | 22,7       | 23,3       | 23,9       | 23,7           | 24,3       | 24,2       | 24,8       | 25,4       |
| <b>8H</b>                       | <b>12H</b> | 22,2             | 22,7       | 22,7       | 23,2       | 23,8       | 23,7           | 24,2       | 24,3       | 24,8       | 25,3       |
| <b>12H</b>                      | <b>4H</b>  | 21,8             | 22,6       | 22,4       | 23,1       | 23,7       | 23,2           | 24,0       | 23,8       | 24,5       | 25,1       |
| <b>12H</b>                      | <b>6H</b>  | 22,1             | 22,7       | 22,7       | 23,3       | 23,8       | 23,6           | 24,2       | 24,1       | 24,8       | 25,3       |
| <b>12H</b>                      | <b>8H</b>  | 22,2             | 22,7       | 22,7       | 23,3       | 23,8       | 23,7           | 24,2       | 24,2       | 24,8       | 25,3       |

UGR values are corrected for lamp flux of 3440 lm by 4,3

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| <b>Number:</b>    | 90485L120-58                                | <b>Diameter:</b>     | 0 mm             |
| <b>Report:</b>    | 09-01-2020                                  | <b>Length:</b>       | 1180 mm          |
| <b>Meas.-no.:</b> | 01                                          | <b>Width:</b>        | 50 mm            |
| <b>Lamp type:</b> | LED 830 - 01                                | <b>Height:</b>       | 50 mm            |
| <b>Number:</b>    | 1                                           | <b>Power:</b>        | 22,99 W          |
| <b>Lamp flux:</b> | 3440,00 lm                                  | <b>Operator:</b>     | INDEL AGUE GROUP |
| <b>Date:</b>      | 09-01-2020 18:00:30                         | <b>Output ratio:</b> | 95,3 %           |

Luminance [cd/m<sup>2</sup>] TTP 50 LINE L1180 TUP 830 SRT/MID LO / 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    | 9332,94 | 9441,68 | 10154,1 | 10878,3 | 12717,9 | 14946,2 | 17312,3 | 15368,1 | 12544,9 |
| 50,00    | 8576,06 | 8634,14 | 9073,40 | 10083,2 | 11540,0 | 14196,0 | 16547,3 | 14384,6 | 11684,9 |
| 55,00    | 7519,09 | 7571,02 | 8224,31 | 8883,36 | 10507,3 | 13197,0 | 15625,1 | 13254,3 | 10982,8 |
| 60,00    | 6668,02 | 6723,17 | 7199,36 | 7928,35 | 9402,42 | 11833,0 | 14490,4 | 11693,8 | 9865,24 |
| 65,00    | 5430,27 | 5489,97 | 5987,52 | 6766,48 | 7949,55 | 10204,1 | 12765,0 | 10085,6 | 8311,48 |
| 70,00    | 4429,05 | 4402,52 | 4747,79 | 5258,55 | 6455,60 | 8419,94 | 10304,1 | 8683,65 | 6816,56 |
| 75,00    | 3368,34 | 3303,59 | 3759,94 | 3861,34 | 4958,43 | 6062,70 | 7090,41 | 6512,58 | 5487,53 |
| 80,00    | 1887,07 | 1821,27 | 2008,37 | 2560,37 | 3195,80 | 3933,43 | 3651,36 | 4108,81 | 3814,88 |
| 85,00    | 954,70  | 897,77  | 1004,51 | 1130,08 | 1530,41 | 1978,94 | 997,14  | 2100,72 | 1889,39 |

| G/C [cd/ | 135,00  | 150,00  | 165,00  | 180,00  | 195,00  | 210,00  | 225,00  | 240,00  | 255,00  |
|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 45,00    | 11375,8 | 10524,0 | 9777,98 | 9025,45 | 9130,60 | 9299,91 | 10361,6 | 11139,0 | 13680,4 |
| 50,00    | 10472,5 | 9464,42 | 9073,45 | 7850,26 | 8025,86 | 8415,78 | 9071,03 | 10324,7 | 12566,3 |
| 55,00    | 9242,69 | 8603,90 | 7896,10 | 6995,87 | 7109,06 | 7230,16 | 8184,67 | 9254,83 | 11074,0 |
| 60,00    | 8289,67 | 7495,85 | 7098,62 | 5756,01 | 6059,59 | 6309,86 | 6834,08 | 7770,40 | 9404,60 |
| 65,00    | 7046,62 | 6552,75 | 5831,41 | 4864,25 | 5022,74 | 4933,72 | 5807,53 | 6346,71 | 7936,56 |
| 70,00    | 5849,14 | 5177,58 | 4980,82 | 3612,93 | 3721,62 | 3888,19 | 4406,73 | 5039,53 | 6291,41 |
| 75,00    | 4502,88 | 4002,18 | 3694,55 | 2293,54 | 2433,71 | 2611,95 | 3026,13 | 3416,48 | 4220,33 |
| 80,00    | 2978,39 | 2659,12 | 2255,89 | 1136,30 | 1272,82 | 1346,39 | 1632,89 | 1807,05 | 2129,57 |
| 85,00    | 1516,31 | 1331,27 | 1108,36 | 227,83  | 243,84  | 266,25  | 357,62  | 491,24  | 852,47  |

| G/C [cd/ | 270,00  | 285,00  | 300,00  | 315,00  | 330,00  | 345,00  |
|----------|---------|---------|---------|---------|---------|---------|
| 45,00    | 18428,2 | 13450,3 | 11139,0 | 9988,52 | 9000,48 | 8752,26 |
| 50,00    | 18148,1 | 12525,9 | 9967,92 | 8827,71 | 8140,29 | 7713,27 |
| 55,00    | 17691,8 | 11217,4 | 8895,31 | 7885,23 | 7031,33 | 6920,85 |
| 60,00    | 16766,8 | 9698,49 | 7441,55 | 6596,64 | 5865,11 | 5553,17 |
| 65,00    | 15873,5 | 7818,10 | 6062,34 | 5333,45 | 4646,32 | 4474,64 |
| 70,00    | 14364,2 | 5895,84 | 4678,57 | 3963,79 | 3668,29 | 3516,42 |
| 75,00    | 11947,9 | 3898,98 | 2962,97 | 2771,94 | 2011,62 | 1984,11 |
| 80,00    | 8828,66 | 2029,35 | 1455,68 | 1332,44 | 1032,23 | 1014,12 |
| 85,00    | 5166,99 | 639,35  | 472,35  | 357,62  | 290,46  | 254,92  |

## HEADQUARTERS

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