

## Floodlight Summary:

Report based on lamp delivering 1000 lumens.

|                                                         |                                                                     |
|---------------------------------------------------------|---------------------------------------------------------------------|
| Maximum Intensity<br>(Luminaire orientation as tested.) | 324.1 cd per klm.<br>0.0 degrees vertical<br>0.0 degrees horizontal |
|---------------------------------------------------------|---------------------------------------------------------------------|

|             |                |                 |
|-------------|----------------|-----------------|
| Beam Spread | At 10% of Imax | 139.7V x 176.6H |
|             | At 50% of Imax | 103.6V x 141.5H |
|             | At 90% of Imax | 52.6V x 91.0H   |

|           |                |                       |
|-----------|----------------|-----------------------|
| Beam Flux | Total          | 998.4 lumens per klm. |
|           | To 10% of Imax | 990.3 lumens per klm. |
|           | To 50% of Imax | 823.7 lumens per klm. |
|           | To 90% of Imax | 276.9 lumens per klm. |

|              |        |
|--------------|--------|
| Upward LOR   | 0.0 %  |
| Downward LOR | 99.8 % |

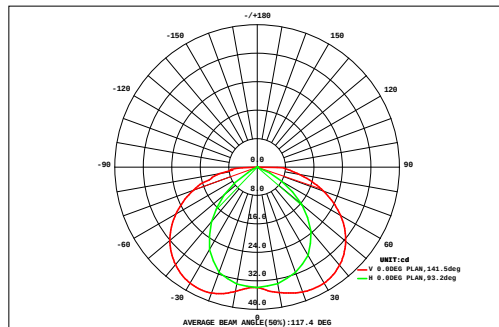
|                                          |         |
|------------------------------------------|---------|
| Luminaire Efficiency(Light Output Ratio) | 100.0 % |
|------------------------------------------|---------|

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:28.0DEG  
Operators:QC1  
Test Date:2024-05-27

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.275  
Humidity:83%  
Test Distance:8.300m [K=1.0000]  
Remarks:

## LUMINAIRE PHOTOMETRIC TEST REPORT

|                                                                  |          |                        |
|------------------------------------------------------------------|----------|------------------------|
| Test:U:24.00V I:0.3220A P:7.728W PF:1.000 Lamp Flux:117.024x1 lm |          |                        |
| NAME: 8.02.040.0004 LLS-OP-W20A-L10-S                            | TYPE:LED | WEIGHT:                |
| DIM.:                                                            | SPEC.:   | SERIAL No.:20240500126 |
| MFR.: TPK OPTOELECTRONIC TECH CO., LTD                           | SUR.:    | PROTECTION ANGLE:      |



| DATA OF LAMP     |                   | Eff:15.14lm/W      |             |
|------------------|-------------------|--------------------|-------------|
| MODEL            | LLS-OP-W20A-L10-S | Imax(cd)           | 37.92       |
| NOMINAL POWER(W) | 8                 | AVAILABILITY(%)    | 99.4        |
| RATED VOLTAGE(V) | 24                | Avai. FLUX(lm)     | 116.3       |
| NOMINAL FLUX(lm) | 117.024           | LOR(%)             | 100.0       |
| LAMPS INSIDE     | 1                 | TOTAL FLUX(lm)     | 117.0       |
| TEST VOLTAGE(V)  | 24.0              | $\theta$ @50%(H,V) | 142, 104DEG |

| VERTICAL (DEG)                                                           | AREA FLUX DIAGRAM |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      | UNIT: lm |      |      |      | Φ t | Φ a |
|--------------------------------------------------------------------------|-------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|----------|------|------|------|-----|-----|
|                                                                          | 90                | 80   | 70   | 60   | 50   | 40   | 30   | 20   | 10   | 0    | -10  | -20  | -30  | -40  | -50  | -60  | -70      | -80  | -90  |      |     |     |
|                                                                          | 0.00              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00     | 0.00 | 0.00 |      |     |     |
|                                                                          | 0.01              | 0.06 | 0.12 | 0.16 | 0.15 | 0.09 | 0.06 | 0.03 | 0.00 | 0.00 | 0.03 | 0.06 | 0.11 | 0.17 | 0.17 | 0.14 | 0.09     | 0.03 | 1.46 | 1.34 |     |     |
|                                                                          | 0.01              | 0.08 | 0.16 | 0.23 | 0.29 | 0.31 | 0.27 | 0.19 | 0.10 | 0.10 | 0.18 | 0.27 | 0.32 | 0.30 | 0.24 | 0.16 | 0.08     | 0.02 | 3.31 | 3.26 |     |     |
|                                                                          | 0.02              | 0.09 | 0.20 | 0.32 | 0.43 | 0.50 | 0.51 | 0.47 | 0.39 | 0.39 | 0.46 | 0.51 | 0.50 | 0.44 | 0.33 | 0.20 | 0.09     | 0.02 | 5.87 | 5.87 |     |     |
|                                                                          | 0.02              | 0.10 | 0.24 | 0.40 | 0.55 | 0.66 | 0.72 | 0.70 | 0.63 | 0.64 | 0.69 | 0.71 | 0.66 | 0.55 | 0.40 | 0.24 | 0.10     | 0.02 | 8.02 | 8.02 |     |     |
|                                                                          | 0.02              | 0.11 | 0.26 | 0.45 | 0.64 | 0.79 | 0.87 | 0.88 | 0.82 | 0.83 | 0.87 | 0.86 | 0.78 | 0.63 | 0.45 | 0.26 | 0.11     | 0.02 | 9.66 | 9.65 |     |     |
|                                                                          | 0.02              | 0.12 | 0.28 | 0.49 | 0.69 | 0.86 | 0.96 | 0.98 | 0.94 | 0.95 | 0.97 | 0.94 | 0.85 | 0.68 | 0.49 | 0.28 | 0.12     | 0.03 | 10.6 | 10.6 |     |     |
|                                                                          | 0.02              | 0.12 | 0.29 | 0.51 | 0.72 | 0.90 | 1.02 | 1.04 | 1.00 | 1.01 | 1.04 | 1.00 | 0.89 | 0.72 | 0.51 | 0.30 | 0.13     | 0.03 | 11.2 | 11.2 |     |     |
|                                                                          | 0.02              | 0.12 | 0.30 | 0.51 | 0.73 | 0.92 | 1.04 | 1.07 | 1.03 | 1.05 | 1.07 | 1.03 | 0.92 | 0.74 | 0.52 | 0.31 | 0.13     | 0.03 | 11.6 | 11.6 |     |     |
|                                                                          | 0.02              | 0.12 | 0.29 | 0.51 | 0.73 | 0.92 | 1.04 | 1.07 | 1.04 | 1.05 | 1.07 | 1.04 | 0.92 | 0.74 | 0.52 | 0.31 | 0.13     | 0.02 | 11.5 | 11.5 |     |     |
|                                                                          | 0.00              | 0.10 | 0.28 | 0.50 | 0.71 | 0.89 | 1.01 | 1.04 | 1.00 | 1.02 | 1.04 | 1.01 | 0.90 | 0.72 | 0.51 | 0.30 | 0.12     | 0.01 | 11.2 | 11.2 |     |     |
|                                                                          | 0.00              | 0.07 | 0.26 | 0.46 | 0.67 | 0.84 | 0.94 | 0.96 | 0.91 | 0.92 | 0.96 | 0.94 | 0.84 | 0.68 | 0.48 | 0.28 | 0.10     | 0.01 | 10.3 | 10.3 |     |     |
|                                                                          | 0.00              | 0.03 | 0.21 | 0.41 | 0.60 | 0.74 | 0.81 | 0.80 | 0.74 | 0.74 | 0.79 | 0.79 | 0.73 | 0.60 | 0.43 | 0.25 | 0.07     | 0.01 | 8.76 | 8.75 |     |     |
|                                                                          | 0.00              | 0.02 | 0.15 | 0.35 | 0.49 | 0.58 | 0.62 | 0.59 | 0.52 | 0.52 | 0.57 | 0.60 | 0.58 | 0.49 | 0.36 | 0.20 | 0.06     | 0.01 | 6.70 | 6.69 |     |     |
|                                                                          | 0.00              | 0.01 | 0.09 | 0.25 | 0.35 | 0.40 | 0.40 | 0.35 | 0.26 | 0.26 | 0.33 | 0.39 | 0.40 | 0.36 | 0.28 | 0.14 | 0.06     | 0.01 | 4.33 | 4.31 |     |     |
|                                                                          | 0.00              | 0.01 | 0.04 | 0.15 | 0.21 | 0.21 | 0.16 | 0.10 | 0.04 | 0.04 | 0.09 | 0.15 | 0.20 | 0.21 | 0.18 | 0.09 | 0.04     | 0.01 | 1.94 | 1.73 |     |     |
|                                                                          | 0.00              | 0.00 | 0.01 | 0.05 | 0.08 | 0.04 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.08 | 0.08 | 0.04 | 0.03     | 0.01 | 0.48 | 0.25 |     |     |
|                                                                          | 0.00              | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01     | 0.00 | 0.02 | 0.00 |     |     |
| -90 -80 -70 -60 -50 -40 -30 -20 HORIZONTAL (DEG) 20 30 40 50 60 70 80 90 |                   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |          |      |      |      |     |     |
| Φ t                                                                      | 0.16              | 1.17 | 3.17 | 5.74 | 8.03 | 9.65 | 10.5 | 10.3 | 9.42 | 9.52 | 10.2 | 10.3 | 9.62 | 8.11 | 5.95 | 3.50 | 1.48     | 0.30 | 117  | ---  |     |     |
| Φ a                                                                      | 0.15              | 1.13 | 3.14 | 5.71 | 7.99 | 9.61 | 10.4 | 10.2 | 9.38 | 9.48 | 10.1 | 10.3 | 9.57 | 8.07 | 5.93 | 3.48 | 1.46     | 0.29 | ---  | 116  |     |     |

one-half-peak spread: U:49.6,D:54.5 , L:46.6,R:45.4

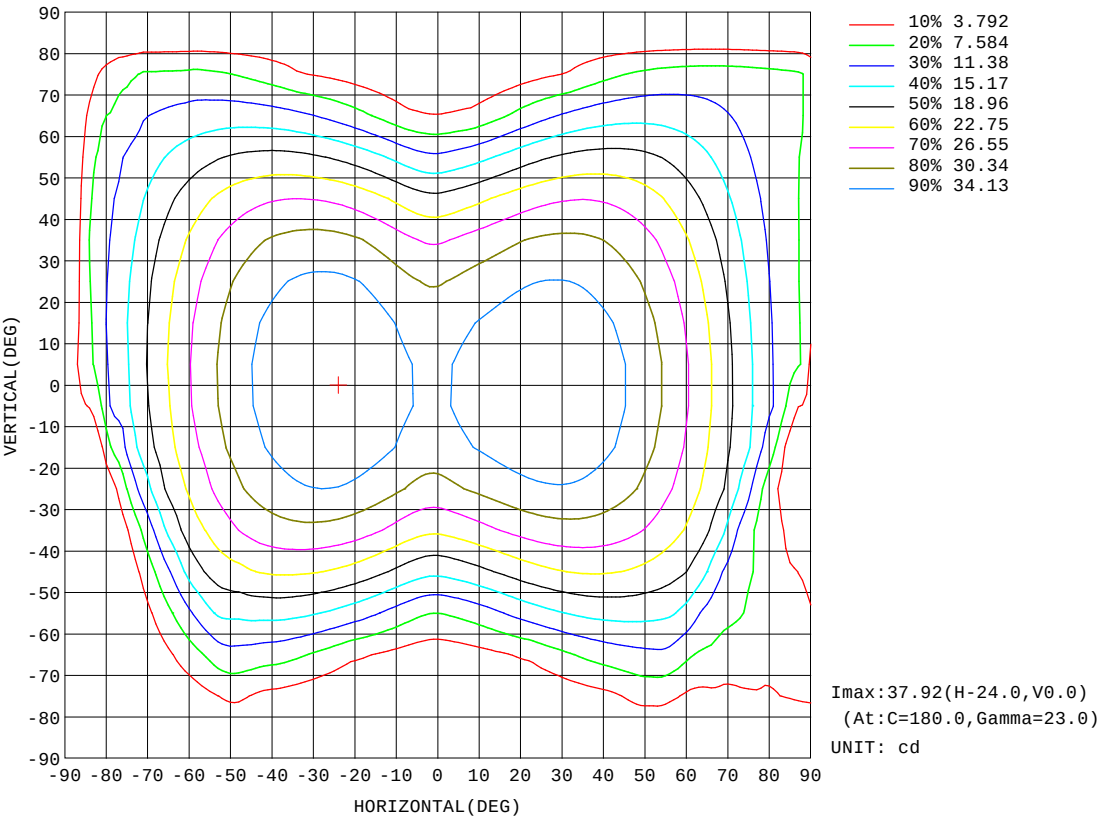
NEMA Beam Type: Type 7

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:28.0DEG  
Operators:QC1  
Test Date:2024-05-27

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE GO-2000B\_V1 SYSTEM V2.0.275  
Humidity:83%  
Test Distance:8.300m [K=1.0000]  
Remarks:

ISOCANDELA DIAGRAM

|                                                                  |          |                        |
|------------------------------------------------------------------|----------|------------------------|
| Test:U:24.00V I:0.3220A P:7.728W PF:1.000 Lamp Flux:117.024x1 lm |          |                        |
| NAME: 8.02.040.0004 LLS-OP-W20A-L10-S                            | TYPE:LED | WEIGHT:                |
| DIM.:                                                            | SPEC.:   | SERIAL No.:20240500126 |
| MFR.: TPK OPTOELECTRONIC TECH CO., LTD                           | SUR.:    | PROTECTION ANGLE:      |

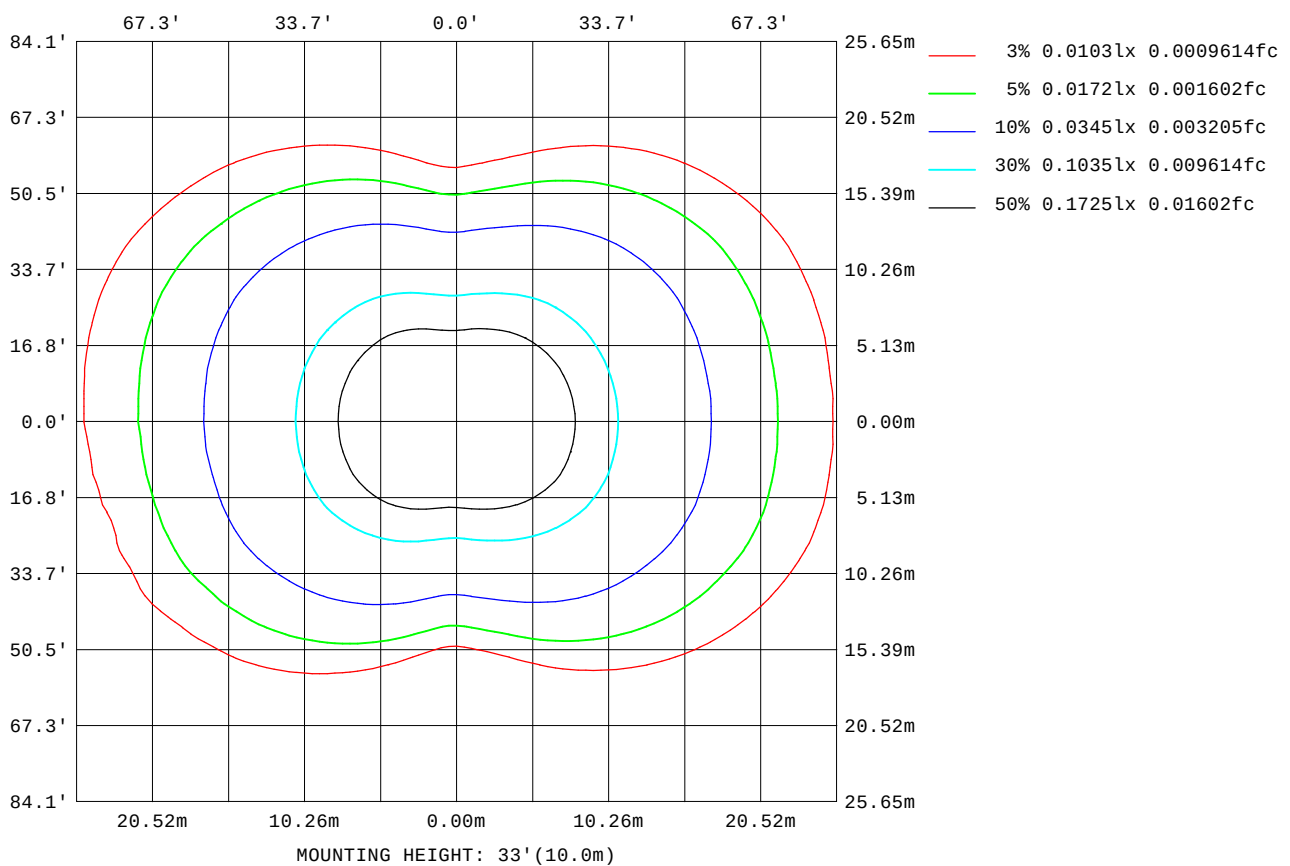


H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:28.0DEG  
Operators:QC1  
Test Date:2024-05-27

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.275  
Humidity:83%  
Test Distance:8.300m [K=1.0000]  
Remarks:

## ISOLUX DIAGRAM

|                                                                  |          |                        |
|------------------------------------------------------------------|----------|------------------------|
| Test:U:24.00V I:0.3220A P:7.728W PF:1.000 Lamp Flux:117.024x1 lm |          |                        |
| NAME: 8.02.040.0004 LLS-OP-W20A-L10-S                            | TYPE:LED | WEIGHT:                |
| DIM.:                                                            | SPEC.:   | SERIAL No.:20240500126 |
| MFR.: TPK OPTOELECTRONIC TECH CO., LTD                           | SUR.:    | PROTECTION ANGLE:      |

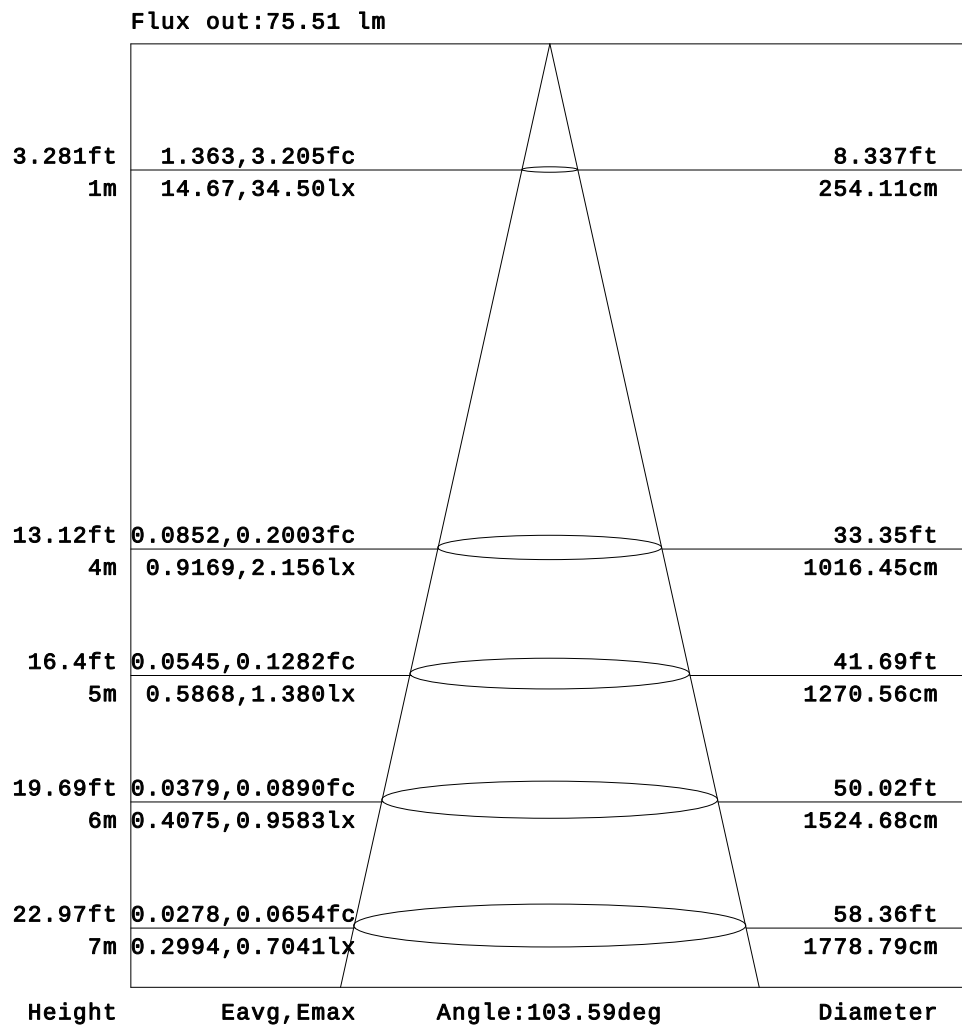


H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:28.0DEG  
Operators:QC1  
Test Date:2024-05-27

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.275  
Humidity:83%  
Test Distance:8.300m [K=1.0000]  
Remarks:

## AAI Figure

|                                                                  |          |                        |
|------------------------------------------------------------------|----------|------------------------|
| Test:U:24.00V I:0.3220A P:7.728W PF:1.000 Lamp Flux:117.024x1 lm |          |                        |
| NAME: 8.02.040.0004 LLS-OP-W20A-L10-S                            | TYPE:LED | WEIGHT:                |
| DIM.:                                                            | SPEC.:   | SERIAL No.:20240500126 |
| MFR.: TPK OPTOELECTRONIC TECH CO., LTD                           | SUR.:    | PROTECTION ANGLE:      |

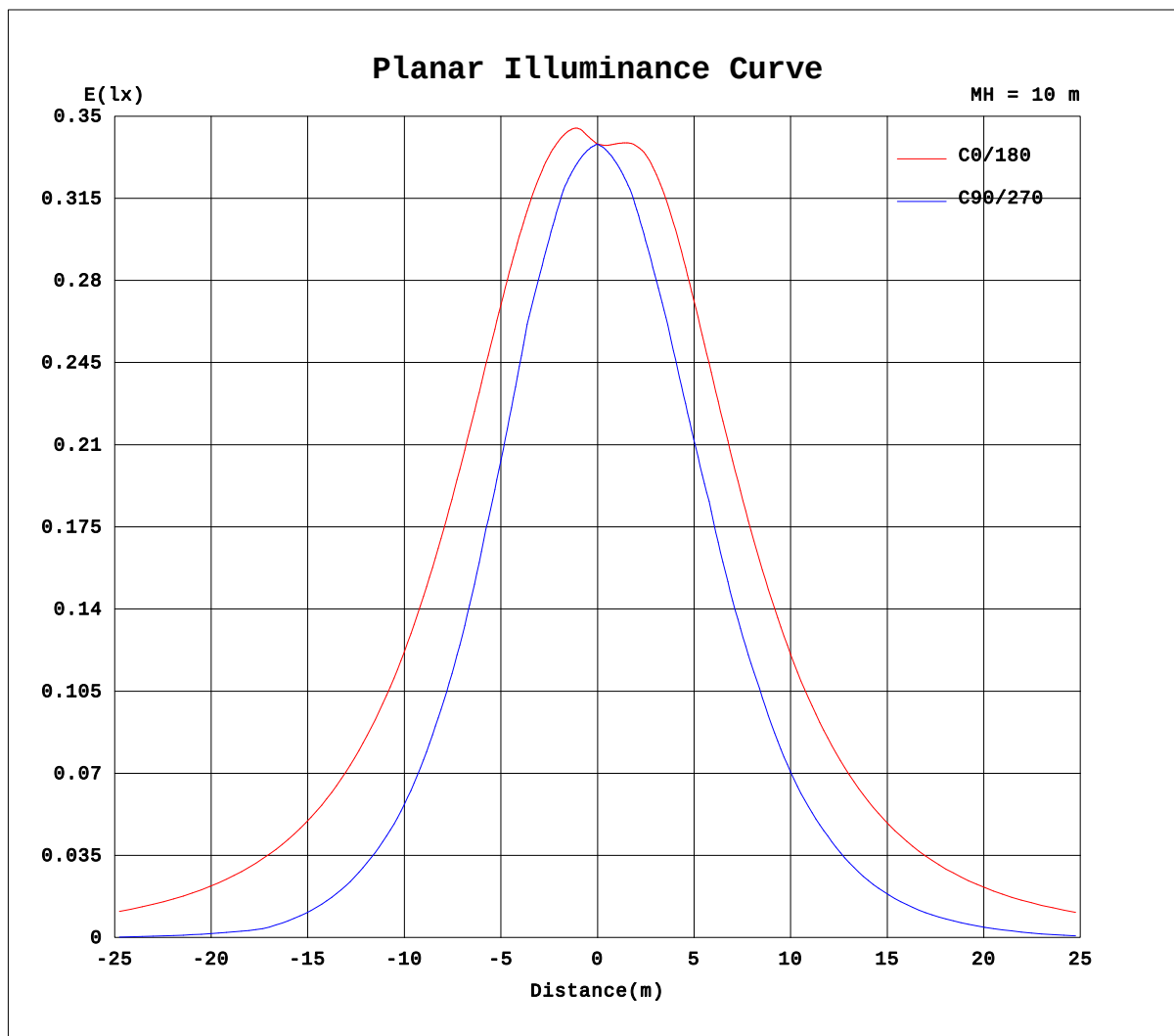


Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:28.0DEG  
Operators:QC1  
Test Date:2024-05-27

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.275  
Humidity:83%  
Test Distance:8.300m [K=1.0000]  
Remarks:

## Planar Illuminance Curve



H( $\beta$ ) Range: -90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature: 28.0DEG  
Operators: QC1  
Test Date: 2024-05-27

V(B) Range: -80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System: EVERFINE G0-2000B\_V1 SYSTEM V2.0.275  
Humidity: 83%  
Test Distance: 8.300m [K=1.0000]  
Remarks:

## LUMINOUS DISTRIBUTION INTENSITY DATA

|                                                                  |          |                        |
|------------------------------------------------------------------|----------|------------------------|
| Test:U:24.00V I:0.3220A P:7.728W PF:1.000 Lamp Flux:117.024x1 lm |          |                        |
| NAME: 8.02.040.0004 LLS-OP-W20A-L10-S                            | TYPE:LED | WEIGHT:                |
| DIM.:                                                            | SPEC.:   | SERIAL No.:20240500126 |
| MFR.: TPK OPTOELECTRONIC TECH CO., LTD                           | SUR.:    | PROTECTION ANGLE:      |

Table--1

UNIT: cd

| H(°) \ V(°) | -90  | -85  | -80  | -75  | -70  | -65  | -60  | -55  | -50  | -45  | -40  | -35  | -30  | -25  | -20  | -15  | -10  | -5   | 0    |
|-------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| -90         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -85         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -80         | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.04 | 1.75 | 0.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -75         | 0.00 | 0.00 | 0.00 | 0.37 | 0.00 | 0.75 | 1.73 | 3.23 | 4.49 | 3.67 | 2.75 | 2.21 | 1.46 | 0.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -70         | 0.00 | 0.00 | 0.00 | 0.74 | 0.00 | 1.51 | 3.47 | 5.42 | 7.23 | 6.50 | 5.50 | 4.41 | 2.93 | 1.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -65         | 0.00 | 0.00 | 0.72 | 1.01 | 0.90 | 3.22 | 5.77 | 8.41 | 10.2 | 9.80 | 9.20 | 8.41 | 7.22 | 5.82 | 4.45 | 3.66 | 2.79 | 1.95 | 1.56 |
| -60         | 0.00 | 0.00 | 1.43 | 1.28 | 1.79 | 4.94 | 8.08 | 11.4 | 13.2 | 13.1 | 12.9 | 12.4 | 11.5 | 10.3 | 8.90 | 7.32 | 5.57 | 3.90 | 3.11 |
| -55         | 0.00 | 0.01 | 1.17 | 0.93 | 3.01 | 6.83 | 10.8 | 14.6 | 16.0 | 16.4 | 16.5 | 16.2 | 15.5 | 14.5 | 13.2 | 11.7 | 9.99 | 8.33 | 7.60 |
| -50         | 0.00 | 0.01 | 0.91 | 0.59 | 4.22 | 8.72 | 13.4 | 17.7 | 18.8 | 19.7 | 20.0 | 20.0 | 19.5 | 18.6 | 17.5 | 16.1 | 14.4 | 12.8 | 12.1 |
| -45         | 0.00 | 0.01 | 0.46 | 1.33 | 5.77 | 10.9 | 16.4 | 19.8 | 21.5 | 22.6 | 23.2 | 23.3 | 23.0 | 22.3 | 21.3 | 20.0 | 18.3 | 16.7 | 16.1 |
| -40         | 0.00 | 0.00 | 0.00 | 2.08 | 7.33 | 13.1 | 19.3 | 21.9 | 24.1 | 25.4 | 26.4 | 26.7 | 26.6 | 26.1 | 25.1 | 23.8 | 22.2 | 20.7 | 20.1 |
| -35         | 0.00 | 0.00 | 0.00 | 3.49 | 9.54 | 15.9 | 20.7 | 23.4 | 25.8 | 27.6 | 28.8 | 29.4 | 29.5 | 29.1 | 28.3 | 27.0 | 25.5 | 24.0 | 23.4 |
| -30         | 0.00 | 0.00 | 0.00 | 4.90 | 11.8 | 18.6 | 22.2 | 25.0 | 27.5 | 29.8 | 31.2 | 32.1 | 32.4 | 32.2 | 31.4 | 30.3 | 28.7 | 27.3 | 26.8 |
| -25         | 0.00 | 0.00 | 1.02 | 7.61 | 14.2 | 19.7 | 23.2 | 26.3 | 28.8 | 31.0 | 32.5 | 33.5 | 34.1 | 34.1 | 33.5 | 32.4 | 30.9 | 29.6 | 29.2 |
| -20         | 0.00 | 0.00 | 2.04 | 10.3 | 16.6 | 20.9 | 24.3 | 27.5 | 30.2 | 32.3 | 33.9 | 35.0 | 35.7 | 35.9 | 35.5 | 34.5 | 33.2 | 31.9 | 31.5 |
| -15         | 0.00 | 0.00 | 5.63 | 12.2 | 17.5 | 21.4 | 25.1 | 28.2 | 30.9 | 33.0 | 34.6 | 35.8 | 36.5 | 36.6 | 36.3 | 35.3 | 34.0 | 32.8 | 32.4 |
| -10         | 0.00 | 0.00 | 9.23 | 14.1 | 18.3 | 21.9 | 25.9 | 28.9 | 31.6 | 33.7 | 35.4 | 36.5 | 37.3 | 37.4 | 37.0 | 36.2 | 34.9 | 33.7 | 33.4 |
| -5          | 0.00 | 3.68 | 9.98 | 14.1 | 18.7 | 22.4 | 26.2 | 29.2 | 31.8 | 33.9 | 35.6 | 36.8 | 37.5 | 37.6 | 37.3 | 36.5 | 35.2 | 33.9 | 33.6 |
| 0           | 0.00 | 7.35 | 10.7 | 14.0 | 19.2 | 23.0 | 26.4 | 29.5 | 32.1 | 34.2 | 35.8 | 37.0 | 37.7 | 37.9 | 37.7 | 36.8 | 35.4 | 34.2 | 33.8 |
| 5           | 0.00 | 6.37 | 11.1 | 14.6 | 19.2 | 22.9 | 26.3 | 29.4 | 32.0 | 34.1 | 35.7 | 36.9 | 37.6 | 37.7 | 37.4 | 36.5 | 35.1 | 33.9 | 33.5 |
| 10          | 0.00 | 5.39 | 11.4 | 15.2 | 19.1 | 22.8 | 26.3 | 29.3 | 31.9 | 34.0 | 35.6 | 36.7 | 37.4 | 37.5 | 37.1 | 36.2 | 34.8 | 33.6 | 33.2 |
| 15          | 0.00 | 5.84 | 11.4 | 15.1 | 18.9 | 22.6 | 26.0 | 28.9 | 31.4 | 33.5 | 35.0 | 36.1 | 36.7 | 36.8 | 36.3 | 35.4 | 34.0 | 32.7 | 32.4 |
| 20          | 0.00 | 6.28 | 11.4 | 15.0 | 18.8 | 22.4 | 25.6 | 28.5 | 31.0 | 33.0 | 34.4 | 35.4 | 36.0 | 36.1 | 35.6 | 34.6 | 33.2 | 31.9 | 31.5 |
| 25          | 0.00 | 6.45 | 11.2 | 14.7 | 18.3 | 21.8 | 24.9 | 27.7 | 30.1 | 32.0 | 33.4 | 34.3 | 34.9 | 34.9 | 34.3 | 33.3 | 31.8 | 30.5 | 30.1 |
| 30          | 0.00 | 6.61 | 11.1 | 14.4 | 17.8 | 21.2 | 24.2 | 26.9 | 29.2 | 31.0 | 32.3 | 33.2 | 33.7 | 33.6 | 33.0 | 31.9 | 30.5 | 29.1 | 28.6 |
| 35          | 0.00 | 6.38 | 10.8 | 14.0 | 17.2 | 20.3 | 23.2 | 25.7 | 27.8 | 29.5 | 30.7 | 31.4 | 31.7 | 31.5 | 30.8 | 29.6 | 28.1 | 26.6 | 26.1 |
| 40          | 0.00 | 6.15 | 10.5 | 13.5 | 16.5 | 19.4 | 22.1 | 24.4 | 26.4 | 27.9 | 29.0 | 29.5 | 29.6 | 29.3 | 28.5 | 27.2 | 25.7 | 24.2 | 23.6 |
| 45          | 0.00 | 5.70 | 9.80 | 13.0 | 15.6 | 18.2 | 20.6 | 22.6 | 24.2 | 25.4 | 26.2 | 26.5 | 26.4 | 25.9 | 25.0 | 23.7 | 22.1 | 20.5 | 20.0 |
| 50          | 0.00 | 5.26 | 9.06 | 12.4 | 14.7 | 17.0 | 19.0 | 20.7 | 22.0 | 22.9 | 23.4 | 23.5 | 23.2 | 22.5 | 21.5 | 20.1 | 18.5 | 16.9 | 16.3 |
| 55          | 0.00 | 4.82 | 8.62 | 11.7 | 13.6 | 15.4 | 17.0 | 18.3 | 19.2 | 19.8 | 20.1 | 19.9 | 19.4 | 18.6 | 17.4 | 16.0 | 14.3 | 12.7 | 12.1 |
| 60          | 0.00 | 4.38 | 8.19 | 11.0 | 12.5 | 13.9 | 15.0 | 15.8 | 16.4 | 16.7 | 16.7 | 16.3 | 15.6 | 14.6 | 13.4 | 11.8 | 10.1 | 8.49 | 7.82 |
| 65          | 0.00 | 3.40 | 7.56 | 9.46 | 11.3 | 12.2 | 12.8 | 13.3 | 13.4 | 13.3 | 13.0 | 12.4 | 11.4 | 10.2 | 8.83 | 7.24 | 5.50 | 4.24 | 3.91 |
| 70          | 0.00 | 2.42 | 6.94 | 7.88 | 10.1 | 10.5 | 10.7 | 10.7 | 10.5 | 10.0 | 9.33 | 8.39 | 7.22 | 5.85 | 4.30 | 2.62 | 0.88 | 0.00 | 0.00 |
| 75          | 0.00 | 1.21 | 4.88 | 6.74 | 8.07 | 8.19 | 8.42 | 8.26 | 7.63 | 6.77 | 5.69 | 4.41 | 3.61 | 2.93 | 2.15 | 1.31 | 0.44 | 0.00 | 0.00 |
| 80          | 0.00 | 0.00 | 2.82 | 5.61 | 6.07 | 5.91 | 6.10 | 5.82 | 4.77 | 3.52 | 2.06 | 0.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 85          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 90          | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

H( $\beta$ ) Range:-90 - 90DEG  
H( $\beta$ ) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:28.0DEG  
Operators:QC1  
Test Date:2024-05-27

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.275  
Humidity:83%  
Test Distance:8.300m [K=1.0000]  
Remarks:

LUMINOUS DISTRIBUTION INTENSITY DATA

|                                                                  |          |                        |
|------------------------------------------------------------------|----------|------------------------|
| Test:U:24.00V I:0.3220A P:7.728W PF:1.000 Lamp Flux:117.024x1 lm |          |                        |
| NAME: 8.02.040.0004 LLS-OP-W20A-L10-S                            | TYPE:LED | WEIGHT:                |
| DIM.:                                                            | SPEC.:   | SERIAL No.:20240500126 |
| MFR.: TPK OPTOELECTRONIC TECH CO., LTD                           | SUR.:    | PROTECTION ANGLE:      |

| Table--2 |      | UNIT: cd |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|----------|------|----------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| H(°)     | V(°) | 5        | 10   | 15   | 20   | 25   | 30   | 35   | 40   | 45   | 50   | 55   | 60   | 65   | 70   | 75   | 80   | 85   | 90   |
| -90      | 0.00 | 0.00     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -85      | 0.00 | 0.00     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| -80      | 0.00 | 0.00     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.15 | 2.33 | 1.60 | 0.66 | 0.27 | 1.28 | 2.20 | 3.20 | 3.99 | 4.59 |
| -75      | 0.00 | 0.00     | 0.00 | 0.00 | 0.52 | 1.33 | 2.12 | 2.80 | 3.95 | 4.99 | 4.74 | 3.30 | 2.93 | 2.88 | 3.42 | 3.55 | 4.04 | 4.55 |      |
| -70      | 0.00 | 0.00     | 0.00 | 0.00 | 1.04 | 2.66 | 4.24 | 5.61 | 6.74 | 7.66 | 7.88 | 5.94 | 5.59 | 4.49 | 4.65 | 3.90 | 4.08 | 4.51 |      |
| -65      | 1.93 | 2.55     | 3.36 | 4.18 | 5.37 | 6.80 | 8.10 | 9.18 | 9.98 | 10.5 | 10.6 | 8.44 | 6.97 | 6.05 | 5.56 | 4.55 | 4.31 | 4.35 |      |
| -60      | 3.86 | 5.09     | 6.71 | 8.35 | 9.71 | 10.9 | 12.0 | 12.7 | 13.2 | 13.4 | 13.3 | 10.9 | 8.35 | 7.61 | 6.46 | 5.21 | 4.54 | 4.19 |      |
| -55      | 8.37 | 9.57     | 11.1 | 12.6 | 13.9 | 15.0 | 15.9 | 16.4 | 16.5 | 16.3 | 15.8 | 14.0 | 10.3 | 8.42 | 7.15 | 5.42 | 4.48 | 3.89 |      |
| -50      | 12.9 | 14.0     | 15.5 | 16.9 | 18.2 | 19.2 | 19.8 | 20.0 | 19.8 | 19.2 | 18.4 | 17.0 | 12.3 | 9.22 | 7.83 | 5.62 | 4.41 | 3.60 |      |
| -45      | 16.9 | 18.0     | 19.4 | 20.7 | 21.8 | 22.6 | 23.1 | 23.1 | 22.7 | 21.8 | 20.6 | 19.0 | 15.2 | 10.4 | 7.94 | 5.97 | 4.03 | 3.36 |      |
| -40      | 20.9 | 22.0     | 23.3 | 24.5 | 25.5 | 26.1 | 26.3 | 26.2 | 25.5 | 24.4 | 22.9 | 21.0 | 18.0 | 11.6 | 8.05 | 6.32 | 3.66 | 3.12 |      |
| -35      | 24.3 | 25.4     | 26.6 | 27.7 | 28.5 | 29.0 | 29.0 | 28.6 | 27.8 | 26.4 | 24.6 | 22.4 | 19.5 | 14.3 | 8.81 | 5.65 | 2.91 | 2.28 |      |
| -30      | 27.6 | 28.7     | 29.9 | 30.9 | 31.6 | 31.9 | 31.8 | 31.1 | 30.0 | 28.4 | 26.3 | 23.9 | 21.0 | 17.0 | 9.56 | 4.99 | 2.16 | 1.44 |      |
| -25      | 30.1 | 31.1     | 32.2 | 33.1 | 33.7 | 33.9 | 33.5 | 32.7 | 31.4 | 29.6 | 27.4 | 24.7 | 21.7 | 18.0 | 12.4 | 5.77 | 1.33 | 0.72 |      |
| -20      | 32.5 | 33.5     | 34.5 | 35.3 | 35.7 | 35.8 | 35.3 | 34.3 | 32.7 | 30.8 | 28.4 | 25.6 | 22.4 | 19.0 | 15.2 | 6.55 | 0.49 | 0.00 |      |
| -15      | 33.4 | 34.4     | 35.4 | 36.1 | 36.5 | 36.5 | 36.0 | 34.9 | 33.4 | 31.4 | 29.0 | 26.2 | 22.9 | 19.4 | 15.6 | 9.36 | 2.15 | 0.00 |      |
| -10      | 34.4 | 35.3     | 36.2 | 37.0 | 37.3 | 37.2 | 36.6 | 35.6 | 34.0 | 32.1 | 29.6 | 26.7 | 23.4 | 19.8 | 16.0 | 12.2 | 3.80 | 0.00 |      |
| -5       | 34.6 | 35.6     | 36.4 | 37.1 | 37.5 | 37.4 | 36.8 | 35.8 | 34.3 | 32.3 | 29.8 | 26.9 | 23.5 | 19.9 | 16.0 | 12.1 | 6.28 | 0.00 |      |
| 0        | 34.8 | 35.8     | 36.7 | 37.3 | 37.7 | 37.6 | 37.1 | 36.0 | 34.5 | 32.5 | 30.0 | 27.0 | 23.6 | 19.9 | 15.9 | 12.1 | 8.75 | 0.00 |      |
| 5        | 34.5 | 35.5     | 36.4 | 37.0 | 37.4 | 37.3 | 36.8 | 35.7 | 34.2 | 32.3 | 29.8 | 26.9 | 23.5 | 19.8 | 15.9 | 12.1 | 8.76 | 2.48 |      |
| 10       | 34.2 | 35.2     | 36.0 | 36.7 | 37.1 | 37.0 | 36.5 | 35.5 | 34.0 | 32.1 | 29.7 | 26.8 | 23.5 | 19.8 | 15.9 | 12.1 | 8.76 | 4.96 |      |
| 15       | 33.3 | 34.3     | 35.2 | 35.9 | 36.3 | 36.2 | 35.7 | 34.8 | 33.3 | 31.4 | 29.1 | 26.2 | 23.0 | 19.4 | 15.6 | 11.8 | 8.66 | 5.20 |      |
| 20       | 32.4 | 33.4     | 34.3 | 35.0 | 35.4 | 35.5 | 35.0 | 34.0 | 32.6 | 30.8 | 28.4 | 25.7 | 22.5 | 18.9 | 15.3 | 11.6 | 8.57 | 5.43 |      |
| 25       | 30.9 | 32.0     | 32.9 | 33.7 | 34.1 | 34.2 | 33.8 | 33.0 | 31.7 | 29.9 | 27.6 | 25.0 | 21.9 | 18.5 | 14.9 | 11.5 | 8.52 | 5.46 |      |
| 30       | 29.5 | 30.5     | 31.5 | 32.3 | 32.8 | 33.0 | 32.7 | 31.9 | 30.7 | 29.0 | 26.8 | 24.2 | 21.3 | 18.0 | 14.6 | 11.3 | 8.48 | 5.49 |      |
| 35       | 27.0 | 28.1     | 29.2 | 30.2 | 30.8 | 31.1 | 31.0 | 30.3 | 29.2 | 27.6 | 25.5 | 23.1 | 20.3 | 17.2 | 14.1 | 11.0 | 8.39 | 5.53 |      |
| 40       | 24.5 | 25.7     | 26.9 | 28.0 | 28.8 | 29.3 | 29.3 | 28.7 | 27.7 | 26.2 | 24.2 | 21.9 | 19.3 | 16.4 | 13.5 | 10.7 | 8.31 | 5.57 |      |
| 45       | 20.9 | 22.0     | 23.3 | 24.6 | 25.6 | 26.2 | 26.4 | 26.2 | 25.5 | 24.2 | 22.6 | 20.5 | 18.1 | 15.5 | 12.9 | 10.3 | 8.22 | 5.64 |      |
| 50       | 17.2 | 18.4     | 19.8 | 21.1 | 22.3 | 23.1 | 23.6 | 23.6 | 23.2 | 22.3 | 20.9 | 19.0 | 16.9 | 14.6 | 12.2 | 9.99 | 8.14 | 5.71 |      |
| 55       | 12.9 | 14.2     | 15.6 | 17.1 | 18.4 | 19.4 | 20.1 | 20.3 | 20.2 | 19.7 | 18.7 | 17.3 | 15.5 | 13.6 | 11.6 | 9.66 | 8.10 | 5.81 |      |
| 60       | 8.66 | 9.92     | 11.5 | 13.1 | 14.6 | 15.7 | 16.6 | 17.1 | 17.2 | 17.0 | 16.5 | 15.5 | 14.2 | 12.6 | 10.9 | 9.34 | 8.07 | 5.91 |      |
| 65       | 4.33 | 5.25     | 6.95 | 8.70 | 10.3 | 11.7 | 12.8 | 13.5 | 14.0 | 14.1 | 13.9 | 13.4 | 12.6 | 11.5 | 10.3 | 9.13 | 8.14 | 6.08 |      |
| 70       | 0.00 | 0.57     | 2.39 | 4.28 | 6.04 | 7.61 | 8.92 | 9.95 | 10.7 | 11.2 | 11.4 | 11.3 | 11.0 | 10.5 | 9.74 | 8.92 | 8.20 | 6.25 |      |
| 75       | 0.00 | 0.29     | 1.20 | 2.14 | 3.02 | 3.81 | 5.05 | 6.39 | 7.50 | 8.36 | 8.96 | 9.33 | 9.49 | 9.42 | 9.13 | 8.72 | 8.26 | 6.38 |      |
| 80       | 0.00 | 0.00     | 0.00 | 0.00 | 0.00 | 0.00 | 1.19 | 2.84 | 4.29 | 5.52 | 6.54 | 7.33 | 7.93 | 8.35 | 8.51 | 8.51 | 8.32 | 6.51 |      |
| 85       | 0.00 | 0.00     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |      |
| 90       | 0.00 | 0.00     | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |      |

H(β) Range:-90 - 90DEG  
H(β) Interval: 1.0DEG  
Test Speed: HIGH  
Temperature:28.0DEG  
Operators:QC1  
Test Date:2024-05-27

V(B) Range:-80 - 80DEG  
V(B) Interval: 5.0DEG  
Test System:EVERFINE G0-2000B\_V1 SYSTEM V2.0.275  
Humidity:83%  
Test Distance:8.300m [K=1.0000]  
Remarks: