



Guangdong Meide Testing Technology Co., Ltd.



TEST REPORT OF ANSI/IES LM-79-19

APPROVED METHOD FOR OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

Client..... : HK Lighting Group

Address..... : 3529 Old Conejo, Suite 118, Newbury Park, CA. USA

Test Model..... : ZXL16-H-ACRY

Product Description : LED Luminaire

Brand Name..... : HK Lighting Group

Testing Laboratory..... : Guangdong Meide Testing Technology Co., Ltd.

Address..... : 1st floor, B Area, Jinbaisheng Industrial Park, Headquarters 2 Road,
Songshan Lake Hi-tech Industrial Development Zone, Dongguan City,
Guangdong Pr., China.

Testing location..... : As above

Report No..... : CA2006443L 01004

Test Date..... : June.22,2020 - June.24,2020

Report Date..... : June.28,2020

Tested by:

Tim

Tim Qian/ Test Engineer

Checked by:

Luke Lei

Luke Lei/ Project Engineer

Approved by:



Jessie Li/ Technical Manager

Note 1: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Guangdong Meide Testing Technology Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Note 2: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.



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1. Product Description for Equipment under Test(EUT)

The client submitted 1 sample of model ZXL16-H-ACRY. The sample was received on 2020-06-22, is in undamaged condition.

| | |
|--------------------------|---|
| Model Tested: | ZXL16-H-ACRY |
| Manufacturer: | HK Lighting Group |
| Address: | 3529 Old Conejo, Suite 118, Newbury Park, CA. USA |
| Product Type: | LED Luminaire |
| Rated Voltage/Frequency: | AC 12V 60Hz |
| Rated Power: | 7W |
| Nominal CCT: | 3000K |
| LED Manufacturer: | Nichia |
| LED Model No: | NFCWL036B-V3 |

2. Standards Used

- ANSI/IES LM-79-19: APPROVED METHOD: OPTICAL AND ELECTRICAL MEASUREMENTS OF SOLID-STATE LIGHTING PRODUCTS

3. Test equipment list

| Test Equipment | Serial No | Model No | Calibration due date |
|---|-----------|----------|----------------------|
| Full-field Speed Goniophotometer | MD-E028 | GO-R5000 | 2020/10/06 |
| Digital Power Meter | MD-E001 | PF2010 | 2020/10/06 |
| AC Testing Power Source | MD-E002 | DPS1060 | 2020/10/06 |
| Total Spectral Radiant Flux Standard Lamp | MD-E007 | D908S | 2020/10/06 |

Statement of Traceability: Guangdong Meide Testing Technology Co., Ltd. attested that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit(SI).



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4. Test Method

Requirements of Ambient Condition

Product was tested with no seasoning. All stabilization and measurements were made in compliance with ANSI/IES LM-79-19. The product was operated at rated voltage or at voltage required by manufacturer. The ambient temperature of the sample was maintained at $25^{\circ}\text{C} \pm 1.2^{\circ}\text{C}$ during measurement. And relative humidity between 10% and 65%.

Goniophotometer System

The sample was tested according to the ANSI/IES LM-79-19.

Photometric parameters were measured using a type C goniophotometer and software. The samples were operated at rated voltage and was stabilized before measurement. Luminous flux, Luminous efficacy, zonal flux were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. Photometric distance was more than five times of the Largest dimension of the test SSL product.



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5. Goniophotometer Test results

5.1 Test Data

| | | | |
|--------------------------|-------|--------------------------|----------|
| Test Ambient Temperature | 25.1℃ | Test orientation | Downward |
| Operate time(Min.) | 90 | stabilization time(Min.) | 60 |

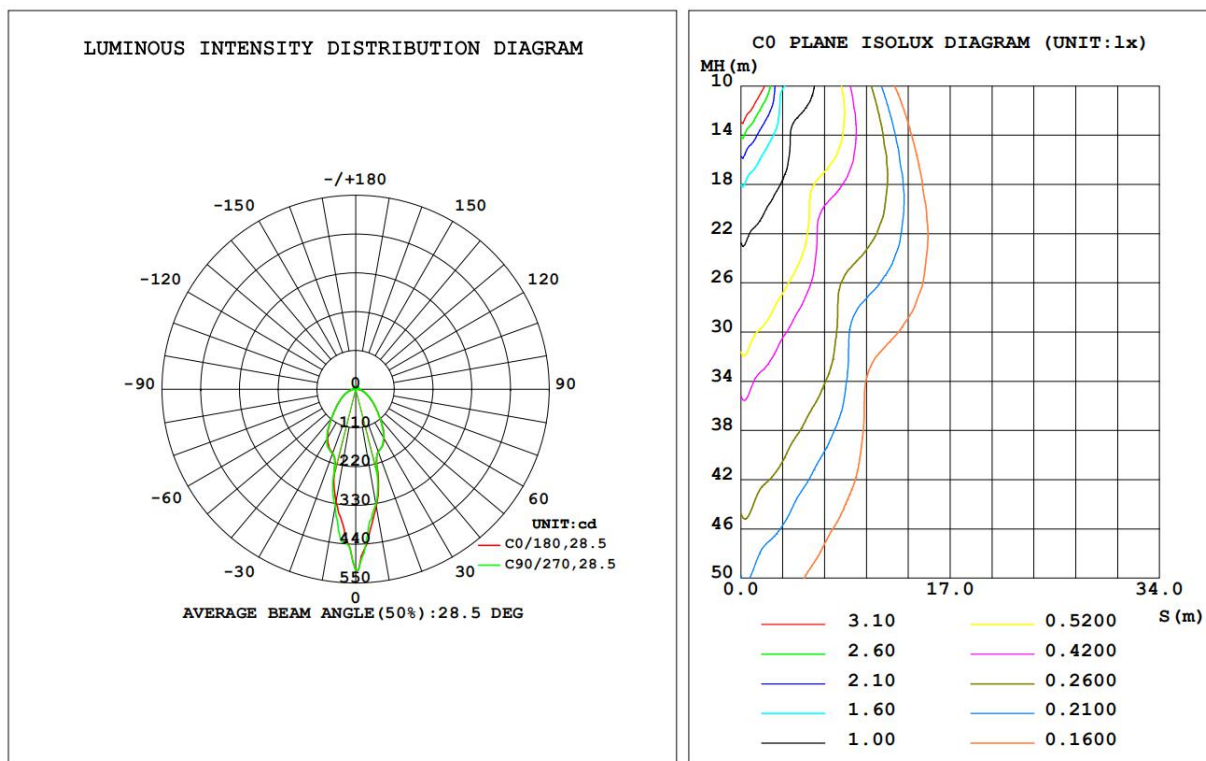
Electrical Measurement

| Input Voltage (V) | Frequency (Hz) | Input Current(A) | Power Factor | Power(W) |
|-------------------|----------------|------------------|--------------|----------|
| 12.00 | 60.00 | 0.6001 | 0.9293 | 6.680 |

Photometric Measurement

| Luminous Flux (lm) | Efficacy(lm/W) | I _{max} (cd) | Spacing Criteria (C0/180°) | Spacing Criteria (C90/270°) |
|--------------------|----------------|-----------------------|----------------------------|-----------------------------|
| 491.347 | 73.56 | 522.2 | 0.46 | 0.49 |

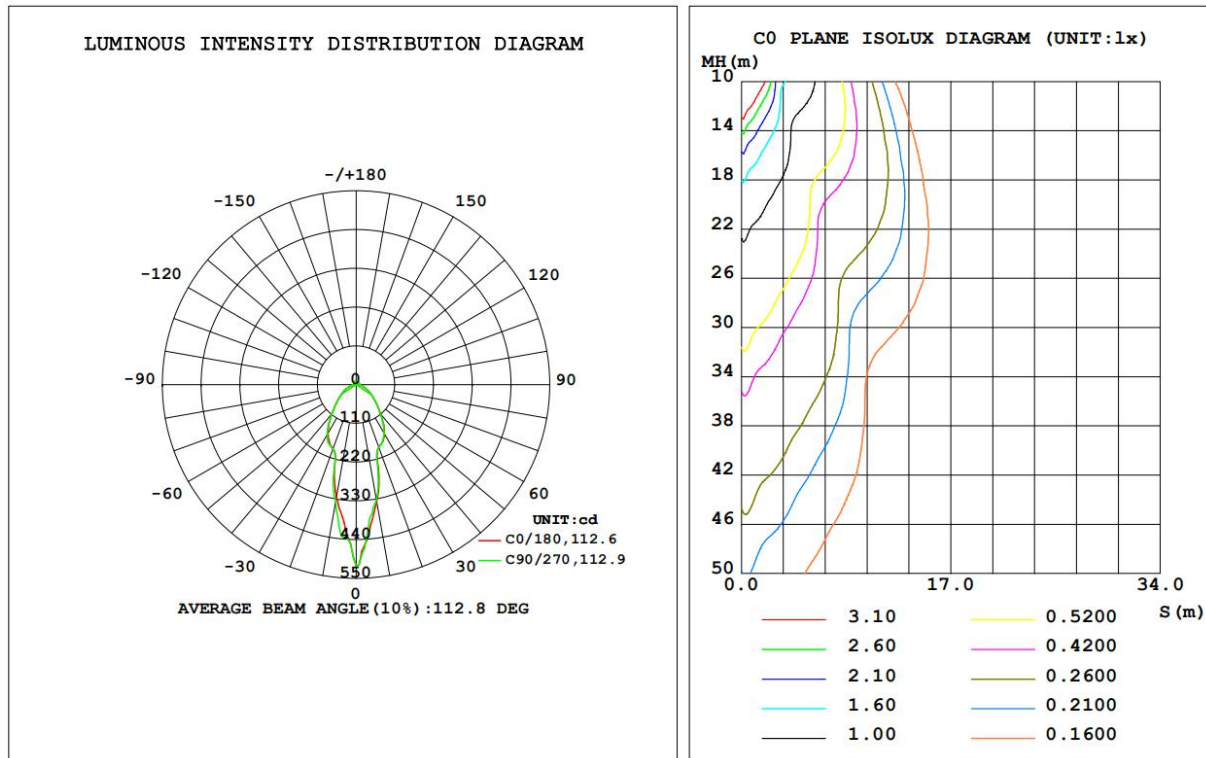
5.2 LUMINOUS INTENSITY DISTRIBUTION DIAGRAM AND C0 PLANE ISOLUX DIAGRAM (UNIT:lx)



AVERAGE BEAM ANGLE(50%):28.5 DEG



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AVERAGE BEAM ANGLE(10%):112.8 DEG



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5.3 ZONAL FLUX DIAGRAM

| γ | C0 | C45 | C90 | C135 | C180 | C225 | C270 | C315 | γ | Φ zone | Φ total | %lum, lamp |
|----------|-----------------------|--------|--------|--------|--------|--------|--------|--------|----------|-------------|--------------|------------|
| 10 | 338.0 | 341.3 | 332.5 | 332.5 | 325.8 | 335.1 | 334.2 | 362.2 | 0- 10 | 37.35 | 37.35 | 7.6, 7.6 |
| 20 | 189.0 | 190.0 | 189.8 | 194.8 | 193.7 | 195.5 | 194.6 | 196.0 | 10- 20 | 68.58 | 105.9 | 21.6, 21.6 |
| 30 | 160.9 | 161.5 | 158.8 | 162.9 | 160.7 | 163.3 | 165.1 | 168.2 | 20- 30 | 83.12 | 189.1 | 38.5, 38.5 |
| 40 | 107.8 | 108.5 | 106.9 | 108.4 | 107.2 | 107.3 | 107.2 | 110.4 | 30- 40 | 84.78 | 273.8 | 55.7, 55.7 |
| 50 | 68.88 | 69.51 | 69.11 | 69.78 | 68.42 | 67.39 | 67.36 | 70.00 | 40- 50 | 66.79 | 340.6 | 69.3, 69.3 |
| 60 | 43.97 | 44.42 | 44.23 | 44.20 | 43.80 | 42.86 | 42.77 | 44.48 | 50- 60 | 49.72 | 390.3 | 79.4, 79.4 |
| 70 | 26.28 | 26.64 | 26.77 | 26.30 | 25.28 | 24.81 | 25.31 | 26.26 | 60- 70 | 34.08 | 424.4 | 86.4, 86.4 |
| 80 | 13.75 | 13.78 | 13.73 | 13.47 | 12.50 | 12.38 | 12.54 | 13.18 | 70- 80 | 20.25 | 444.7 | 90.5, 90.5 |
| 90 | 6.795 | 6.976 | 6.865 | 6.913 | 5.638 | 5.716 | 5.793 | 6.101 | 80- 90 | 10.02 | 454.7 | 92.5, 92.5 |
| 100 | 5.902 | 5.005 | 4.457 | 5.036 | 4.756 | 4.376 | 4.281 | 4.395 | 90-100 | 6.181 | 460.9 | 93.8, 93.8 |
| 110 | 4.757 | 4.646 | 5.511 | 4.577 | 4.316 | 4.199 | 6.511 | 4.220 | 100-110 | 4.833 | 465.7 | 94.8, 94.8 |
| 120 | 3.710 | 6.964 | 7.219 | 7.156 | 2.617 | 8.221 | 8.112 | 7.461 | 110-120 | 5.242 | 471.0 | 95.8, 95.8 |
| 130 | 4.565 | 9.459 | 7.852 | 9.781 | 5.728 | 10.54 | 6.627 | 10.14 | 120-130 | 6.159 | 477.1 | 97.1, 97.1 |
| 140 | 7.132 | 11.70 | 4.368 | 11.93 | 7.664 | 12.06 | 4.276 | 12.02 | 130-140 | 6.541 | 483.7 | 98.4, 98.4 |
| 150 | 8.280 | 10.99 | 4.187 | 11.31 | 8.192 | 9.812 | 10.00 | 11.29 | 140-150 | 4.270 | 487.9 | 99.3, 99.3 |
| 160 | 6.790 | 0.1038 | 3.302 | 0.1802 | 4.656 | 0.3558 | 5.794 | 5.819 | 150-160 | 2.854 | 490.8 | 99.9, 99.9 |
| 170 | 1.850 | 0.3574 | 0.1783 | 0.4487 | 2.553 | 0.9775 | 0.2674 | 0.5369 | 160-170 | 0.5064 | 491.3 | 100, 100 |
| 180 | 0.2784 | 0.3574 | 0.1783 | 0.3589 | 0.3524 | 0.4479 | 0.2674 | 0.4487 | 170-180 | 0.0642 | 491.3 | 100, 100 |
| DEG | LUMINOUS INTENSITY:cd | | | | | | | | | UNIT:lm | | |

Conical surface Flux(90deg): 309.51 lm

%lum = 63.0%

%lamp = 63.0%

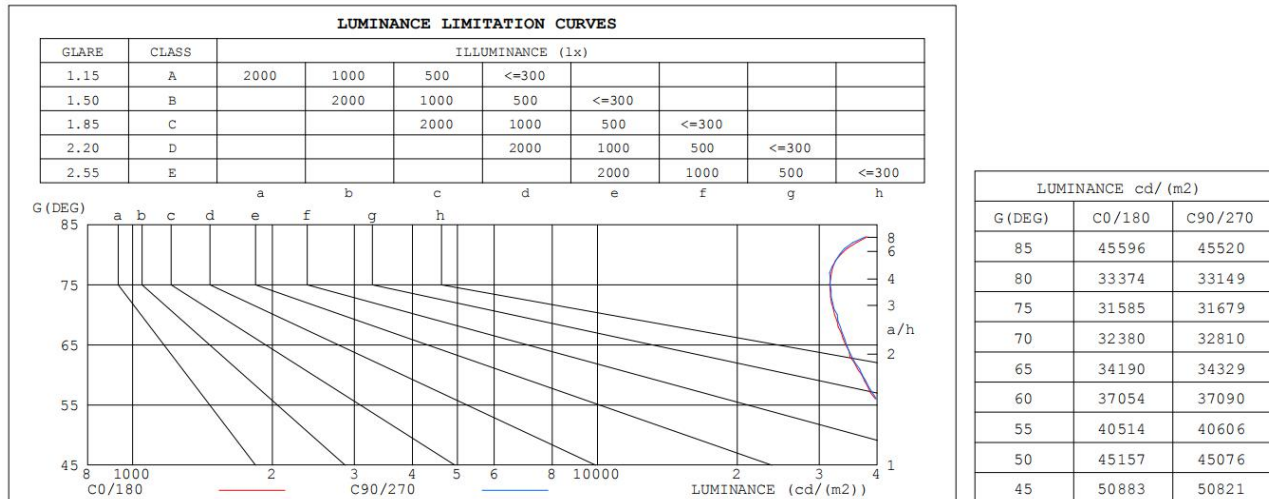
Conical surface Flux(120deg): 390.35 lm

%lum = 79.4%

%lamp = 79.4%



5.4 LUMINANCE LIMITATION CURVES



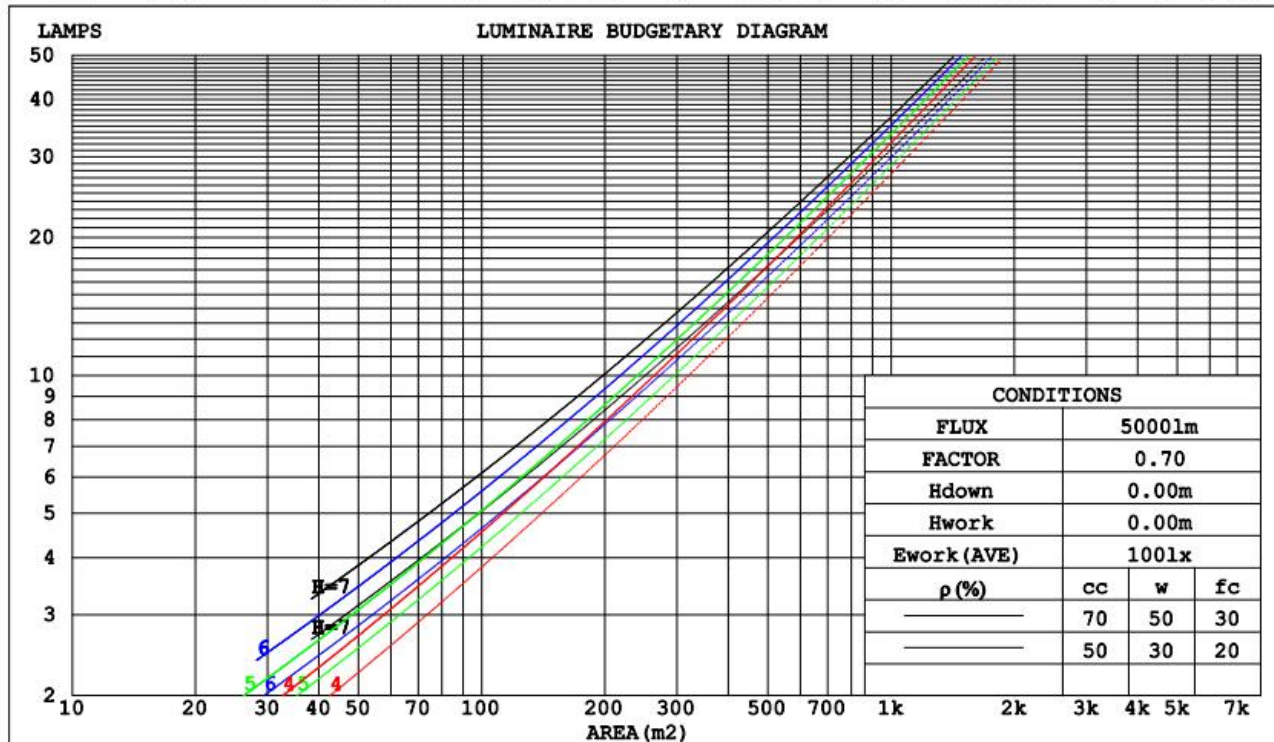


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5.5 CU AND LUMINAIRE BUDGETARY ESTIMATE DIAGRAM

| pcc | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 |
|-----------------|--|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|
| p _w | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 |
| p _{fc} | 20% | | | 20% | | | 20% | | | 20% | | | 20% | | | 0 |
| RCR | RCR:Room Cavity Ratio Coefficients of Utilization(CU) | | | | | | | | | | | | | | | |
| 0.0 | 1.17 | 1.17 | 1.17 | 1.14 | 1.14 | 1.14 | 1.07 | 1.07 | 1.07 | 1.01 | 1.01 | 1.01 | .95 | .95 | .95 | .93 |
| 1.0 | 1.04 | 1.00 | .97 | 1.01 | .98 | .95 | .96 | .93 | .90 | .91 | .88 | .86 | .86 | .84 | .83 | .80 |
| 2.0 | .93 | .87 | .82 | .90 | .85 | .81 | .86 | .81 | .78 | .82 | .78 | .75 | .78 | .75 | .72 | .70 |
| 3.0 | .83 | .76 | .71 | .81 | .75 | .70 | .77 | .72 | .68 | .74 | .69 | .66 | .71 | .67 | .64 | .61 |
| 4.0 | .76 | .68 | .62 | .74 | .67 | .61 | .70 | .64 | .60 | .67 | .62 | .58 | .64 | .60 | .57 | .54 |
| 5.0 | .69 | .61 | .55 | .67 | .60 | .54 | .64 | .58 | .53 | .62 | .56 | .52 | .59 | .55 | .51 | .49 |
| 6.0 | .63 | .55 | .49 | .62 | .54 | .49 | .59 | .53 | .48 | .57 | .51 | .47 | .55 | .50 | .46 | .44 |
| 7.0 | .58 | .50 | .45 | .57 | .50 | .44 | .55 | .48 | .44 | .53 | .47 | .43 | .51 | .46 | .42 | .40 |
| 8.0 | .54 | .46 | .41 | .53 | .46 | .41 | .51 | .45 | .40 | .49 | .44 | .39 | .48 | .42 | .39 | .37 |
| 9.0 | .50 | .43 | .38 | .49 | .42 | .37 | .48 | .41 | .37 | .46 | .40 | .36 | .45 | .39 | .36 | .34 |
| 10.0 | .47 | .40 | .35 | .46 | .39 | .35 | .45 | .38 | .34 | .43 | .38 | .34 | .42 | .37 | .33 | .32 |





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5.6 WEC AND CCEC

| pcc | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 | |
|------|-----------------------|------|------|------|------|------|----------------------------------|------|------|------|------|------|------|------|------|---|--|
| pw | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 | |
| pfc | 20% | | | 20% | | | 20% | | | 20% | | | 20% | | | 0 | |
| RCR | RCR:Room Cavity Ratio | | | | | | Wall Exitance Coefficients (WEC) | | | | | | | | | | |
| 0.0 | | | | | | | | | | | | | | | | | |
| 1.0 | .270 | .153 | .049 | .260 | .148 | .047 | .243 | .139 | .045 | .227 | .131 | .042 | .213 | .123 | .040 | | |
| 2.0 | .250 | .137 | .042 | .242 | .133 | .041 | .227 | .126 | .039 | .213 | .119 | .037 | .200 | .113 | .036 | | |
| 3.0 | .232 | .123 | .037 | .225 | .120 | .036 | .211 | .114 | .035 | .199 | .109 | .033 | .187 | .104 | .032 | | |
| 4.0 | .215 | .112 | .033 | .209 | .109 | .032 | .197 | .104 | .031 | .185 | .100 | .030 | .175 | .095 | .029 | | |
| 5.0 | .200 | .102 | .030 | .194 | .100 | .029 | .183 | .096 | .028 | .173 | .091 | .027 | .164 | .088 | .026 | | |
| 6.0 | .187 | .094 | .027 | .182 | .092 | .026 | .172 | .088 | .026 | .163 | .084 | .025 | .154 | .081 | .024 | | |
| 7.0 | .175 | .086 | .024 | .170 | .085 | .024 | .161 | .082 | .023 | .153 | .078 | .023 | .145 | .075 | .022 | | |
| 8.0 | .164 | .080 | .023 | .160 | .079 | .022 | .152 | .076 | .022 | .144 | .073 | .021 | .137 | .070 | .021 | | |
| 9.0 | .155 | .075 | .021 | .151 | .073 | .021 | .143 | .071 | .020 | .137 | .068 | .020 | .130 | .066 | .019 | | |
| 10.0 | .146 | .070 | .019 | .143 | .069 | .019 | .136 | .067 | .019 | .130 | .064 | .018 | .123 | .062 | .018 | | |

| pcc | 80% | | | 70% | | | 50% | | | 30% | | | 10% | | | 0 | |
|------|-----------------------|------|------|------|------|------|--|------|------|------|------|------|------|------|------|---|--|
| pw | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 50% | 30% | 10% | 0 | |
| pfc | 20% | | | 20% | | | 20% | | | 20% | | | 20% | | | 0 | |
| RCR | RCR:Room Cavity Ratio | | | | | | Ceiling Cavity Exitance Coefficients(CCEC) | | | | | | | | | | |
| 0.0 | .247 | .247 | .247 | .211 | .211 | .211 | .144 | .144 | .144 | .083 | .083 | .083 | .026 | .026 | .026 | | |
| 1.0 | .235 | .214 | .195 | .201 | .183 | .168 | .137 | .126 | .116 | .079 | .073 | .067 | .025 | .024 | .022 | | |
| 2.0 | .224 | .190 | .161 | .192 | .163 | .139 | .132 | .113 | .097 | .076 | .066 | .057 | .024 | .021 | .019 | | |
| 3.0 | .215 | .172 | .138 | .184 | .148 | .119 | .127 | .103 | .084 | .073 | .060 | .049 | .024 | .020 | .016 | | |
| 4.0 | .207 | .158 | .122 | .177 | .137 | .106 | .122 | .095 | .074 | .071 | .056 | .044 | .023 | .018 | .014 | | |
| 5.0 | .199 | .148 | .110 | .171 | .128 | .096 | .118 | .089 | .068 | .068 | .052 | .040 | .022 | .017 | .013 | | |
| 6.0 | .192 | .139 | .102 | .165 | .121 | .089 | .114 | .084 | .063 | .066 | .050 | .037 | .021 | .016 | .012 | | |
| 7.0 | .185 | .132 | .095 | .159 | .115 | .083 | .110 | .080 | .059 | .064 | .047 | .035 | .021 | .016 | .012 | | |
| 8.0 | .179 | .126 | .090 | .154 | .110 | .079 | .107 | .077 | .056 | .062 | .045 | .033 | .020 | .015 | .011 | | |
| 9.0 | .173 | .121 | .086 | .149 | .105 | .075 | .103 | .074 | .054 | .060 | .044 | .032 | .020 | .014 | .011 | | |
| 10.0 | .168 | .117 | .083 | .145 | .102 | .073 | .100 | .072 | .052 | .059 | .042 | .031 | .019 | .014 | .010 | | |



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5.7 UGR(Unified Glare Rating) Table

| | | | | | | | | | | |
|--|------------------|------|------|------|------|----------------|------|------|------|------|
| ceiling/cavity | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| walls | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| working plane | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | Viewed crosswise | | | | | Viewed endwise | | | | |
| x = 2H y = 2H | 24.3 | 25.5 | 24.7 | 25.9 | 26.2 | 24.3 | 25.5 | 24.6 | 25.8 | 26.2 |
| 3H | 25.5 | 26.6 | 25.8 | 26.9 | 27.3 | 25.4 | 26.6 | 25.8 | 26.9 | 27.3 |
| 4H | 26.0 | 27.1 | 26.4 | 27.4 | 27.8 | 26.0 | 27.0 | 26.4 | 27.4 | 27.8 |
| 6H | 26.5 | 27.5 | 26.9 | 27.9 | 28.3 | 26.5 | 27.5 | 26.9 | 27.9 | 28.3 |
| 8H | 26.7 | 27.7 | 27.2 | 28.1 | 28.5 | 26.7 | 27.7 | 27.1 | 28.1 | 28.5 |
| 12H | 27.0 | 27.9 | 27.4 | 28.3 | 28.8 | 26.9 | 27.9 | 27.4 | 28.3 | 28.7 |
| 4H 2H | 24.7 | 25.8 | 25.1 | 26.2 | 26.5 | 24.7 | 25.8 | 25.1 | 26.1 | 26.5 |
| 3H | 26.1 | 27.0 | 26.5 | 27.4 | 27.9 | 26.1 | 27.0 | 26.5 | 27.4 | 27.9 |
| 4H | 26.7 | 27.6 | 27.2 | 28.0 | 28.5 | 26.7 | 27.6 | 27.2 | 28.0 | 28.5 |
| 6H | 27.4 | 28.1 | 27.9 | 28.6 | 29.1 | 27.4 | 28.1 | 27.9 | 28.6 | 29.1 |
| 8H | 27.7 | 28.4 | 28.2 | 28.9 | 29.4 | 27.7 | 28.4 | 28.2 | 28.9 | 29.4 |
| 12H | 28.1 | 28.7 | 28.6 | 29.2 | 29.8 | 28.0 | 28.7 | 28.6 | 29.2 | 29.8 |
| 8H 4H | 27.0 | 27.7 | 27.5 | 28.2 | 28.7 | 27.0 | 27.7 | 27.5 | 28.2 | 28.7 |
| 6H | 27.8 | 28.4 | 28.4 | 28.9 | 29.5 | 27.8 | 28.4 | 28.3 | 28.9 | 29.5 |
| 8H | 28.3 | 28.8 | 28.8 | 29.3 | 29.9 | 28.2 | 28.8 | 28.8 | 29.3 | 29.9 |
| 12H | 28.8 | 29.2 | 29.4 | 29.8 | 30.4 | 28.8 | 29.2 | 29.3 | 29.8 | 30.4 |
| 12H 4H | 27.0 | 27.6 | 27.5 | 28.1 | 28.7 | 27.0 | 27.6 | 27.5 | 28.1 | 28.7 |
| 6H | 27.9 | 28.4 | 28.5 | 29.0 | 29.6 | 27.9 | 28.4 | 28.5 | 28.9 | 29.5 |
| 8H | 28.4 | 28.9 | 29.0 | 29.4 | 30.1 | 28.4 | 28.8 | 29.0 | 29.4 | 30.0 |
| Variations with the observer position at spacings: | | | | | | | | | | |
| S = 1.0H | + 0.2 / - 0.3 | | | | | + 0.2 / - 0.3 | | | | |
| 1.5H | + 0.1 / - 0.2 | | | | | + 0.1 / - 0.1 | | | | |
| 2.0H | + 0.3 / - 0.3 | | | | | + 0.3 / - 0.3 | | | | |

CIE Pub.117, 491.3 lm Total Lamp Luminous Flux Corrected ($8\log(F/F_0) = -2.5$)



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5.8 UTILIZATION FACTORS TABLE

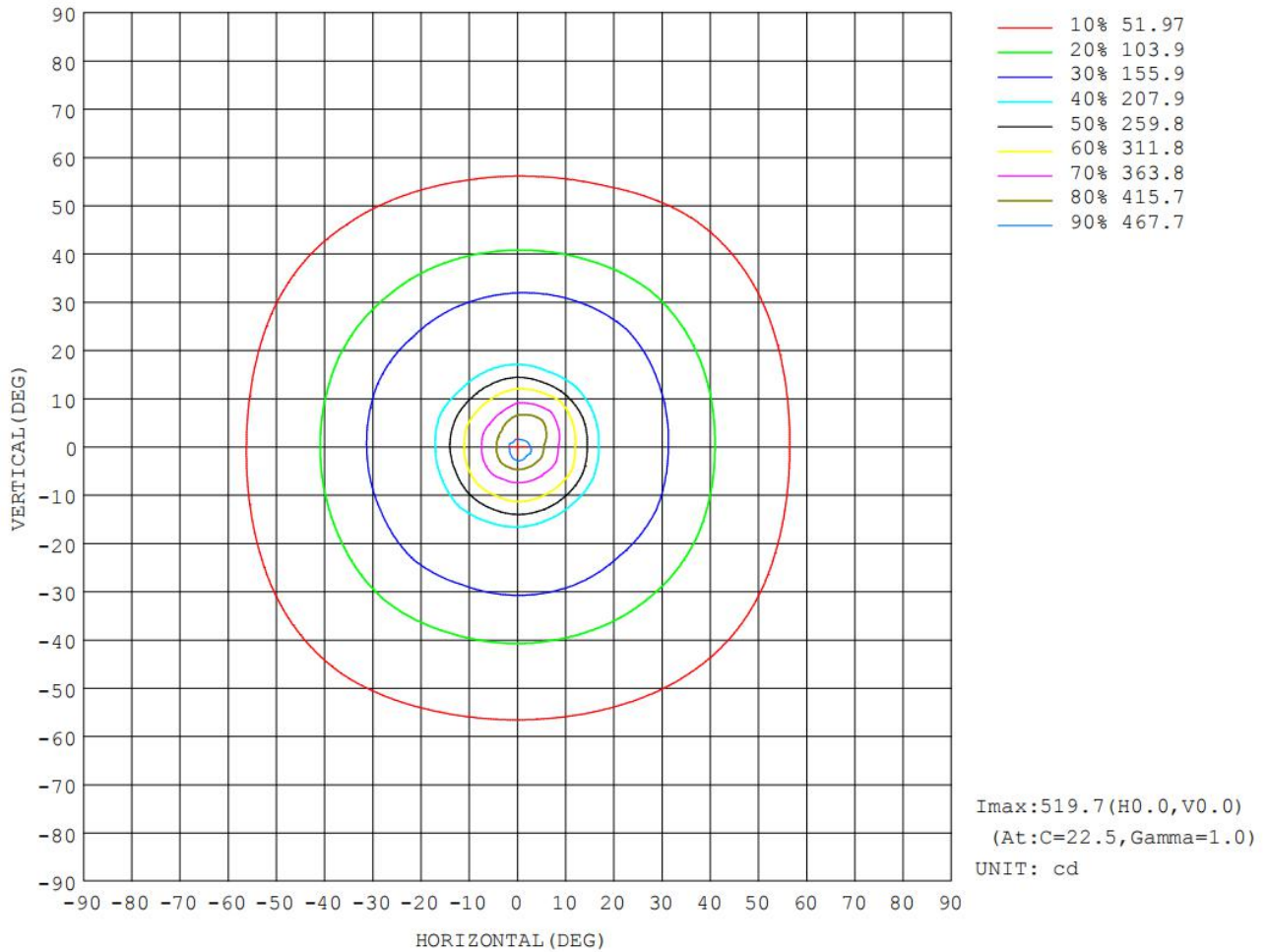
| REFLECTANCE | | | | | | | | | | |
|----------------------------------|--|-----|-----|-----------|-----|-----|-----|--------------|-----|--------|
| Ceiling | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0 |
| Walls | 0.7 | 0.5 | 0.3 | 0.7 | 0.5 | 0.3 | 0.7 | 0.5 | 0.3 | 0 |
| Working plane | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0 |
| ROOM INDEX | UTILIZATION FACTORS (PERCENT) $k(RI) \times RCR = 5$ | | | | | | | | | |
| $k = 0.60$ | 64 | 54 | 48 | 63 | 54 | 48 | 62 | 53 | 48 | 42 |
| 0.80 | 73 | 63 | 57 | 72 | 63 | 57 | 70 | 62 | 56 | 50 |
| 1.00 | 81 | 71 | 65 | 79 | 70 | 64 | 76 | 70 | 63 | 57 |
| 1.25 | 87 | 78 | 71 | 85 | 77 | 71 | 82 | 75 | 70 | 62 |
| 1.50 | 91 | 82 | 76 | 89 | 81 | 76 | 85 | 79 | 74 | 66 |
| 2.00 | 97 | 89 | 83 | 94 | 88 | 82 | 90 | 85 | 80 | 72 |
| 2.50 | 100 | 93 | 88 | 97 | 91 | 86 | 93 | 88 | 84 | 74 |
| 3.00 | 103 | 97 | 92 | 100 | 95 | 90 | 95 | 91 | 87 | 77 |
| 4.00 | 106 | 101 | 97 | 103 | 99 | 95 | 98 | 94 | 91 | 81 |
| 5.00 | 108 | 104 | 100 | 105 | 101 | 98 | 100 | 97 | 94 | 83 |
| ROOM INDEX | UF (total) | | | | | | | | | Direct |
| According to DIN EN 13032-2 2004 | | | | Suspended | | | | SHRNM = 1.25 | | |



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5.9 ISOCANDELA DIAGRAM

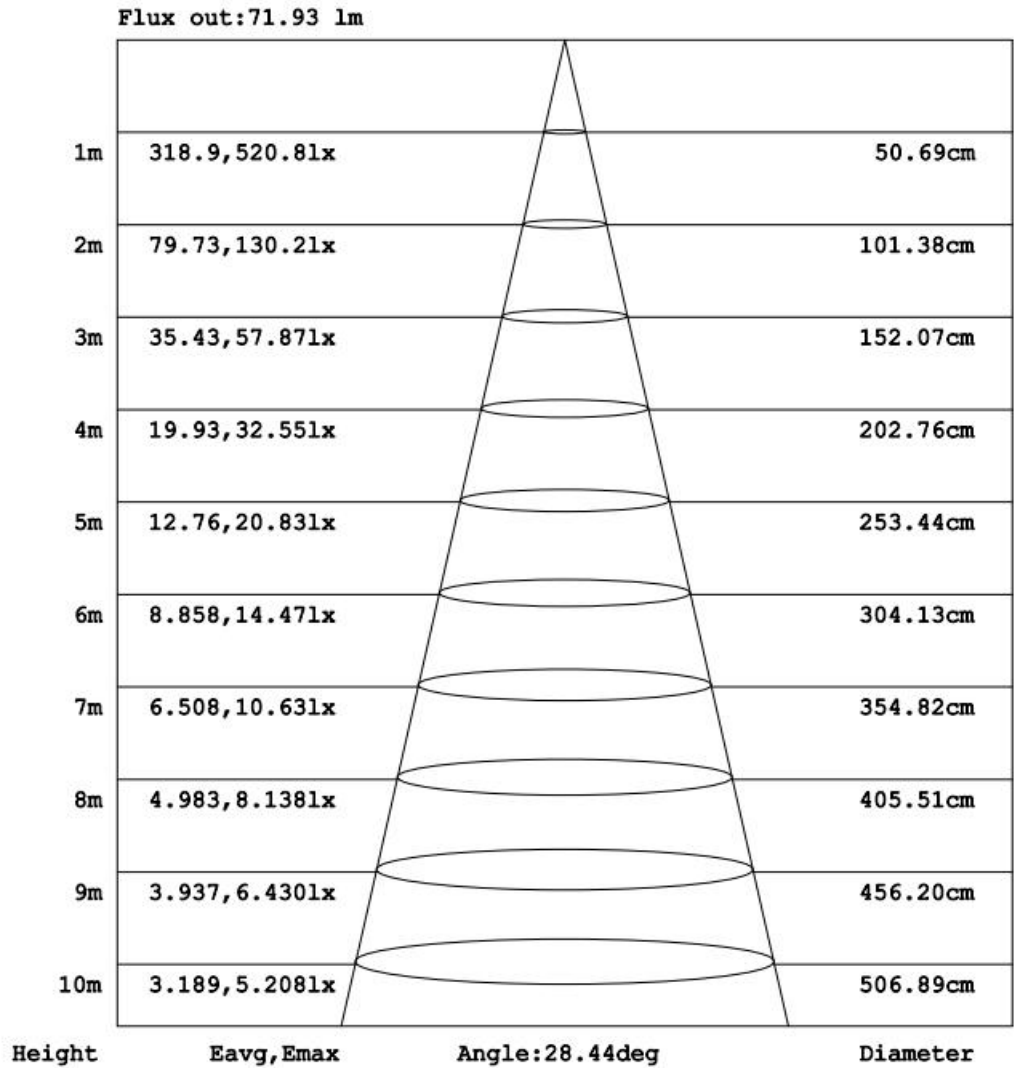




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5.10 AAI Figure



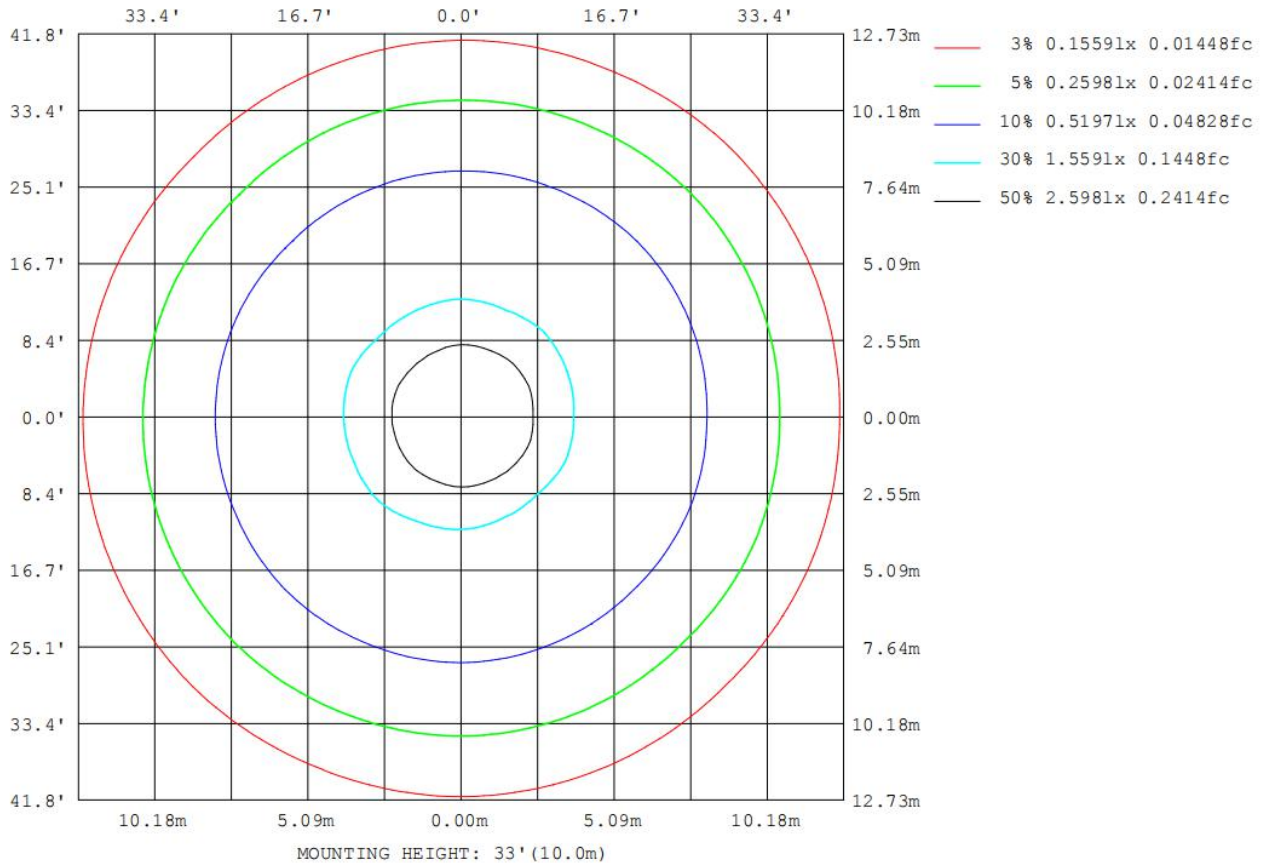
Note:The Curves indicate the illuminated area and the average illumination when the luminaire is at different distance.



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5.11 ISOLUX DIAGRAM

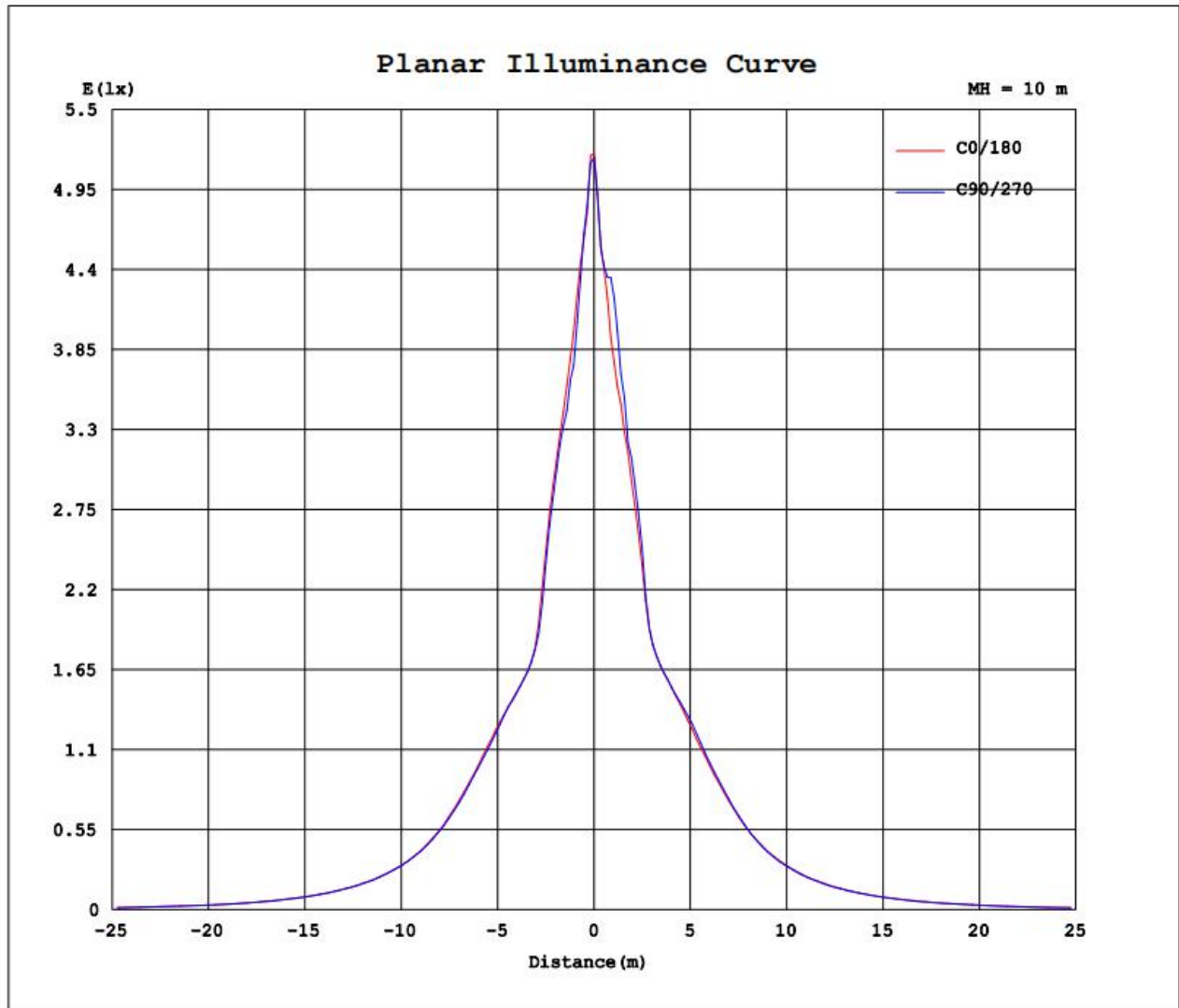




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5.12 Planar Illuminance Curve





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5.13 Luminous Distribution Intensity Data

Table--1

UNIT: cd

| C (DEG) Y (DEG) | 0 | 22.5 | 45 | 67.5 | 90 | 112.5 | 135 | 157.5 | 180 | 202.5 | 225 | 247.5 | 270 | 292.5 | 315 | 337.5 | | | |
|--------------------|------|------|------|------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|--|--|--|
| 0 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | 514 | | | |
| 5 | 422 | 427 | 423 | 408 | 406 | 408 | 408 | 405 | 394 | 407 | 415 | 428 | 437 | 436 | 440 | 435 | | | |
| 10 | 338 | 343 | 341 | 333 | 332 | 329 | 332 | 330 | 326 | 329 | 335 | 329 | 334 | 353 | 362 | 352 | | | |
| 15 | 244 | 248 | 242 | 235 | 233 | 235 | 234 | 232 | 234 | 238 | 235 | 237 | 239 | 239 | 247 | 255 | | | |
| 20 | 189 | 192 | 190 | 187 | 190 | 192 | 195 | 194 | 194 | 197 | 195 | 193 | 195 | 196 | 196 | 195 | | | |
| 25 | 178 | 182 | 179 | 177 | 179 | 179 | 183 | 181 | 181 | 184 | 184 | 183 | 185 | 185 | 186 | 184 | | | |
| 30 | 161 | 163 | 161 | 159 | 159 | 160 | 163 | 161 | 161 | 164 | 163 | 163 | 165 | 166 | 168 | 166 | | | |
| 35 | 136 | 138 | 136 | 135 | 133 | 135 | 136 | 136 | 135 | 137 | 137 | 136 | 138 | 140 | 142 | 140 | | | |
| 40 | 108 | 109 | 109 | 107 | 107 | 108 | 108 | 108 | 107 | 108 | 107 | 106 | 107 | 109 | 110 | 110 | | | |
| 45 | 85.4 | 87.3 | 86.5 | 85.6 | 85.7 | 86.6 | 86.5 | 86.6 | 85.1 | 85.5 | 84.2 | 83.8 | 84.7 | 86.0 | 87.4 | 87.6 | | | |
| 50 | 68.9 | 69.6 | 69.5 | 69.1 | 69.1 | 69.6 | 69.8 | 70.1 | 68.4 | 67.9 | 67.4 | 66.7 | 67.4 | 68.3 | 70.0 | 70.8 | | | |
| 55 | 55.1 | 55.9 | 55.7 | 55.2 | 55.6 | 55.9 | 55.9 | 56.2 | 54.5 | 54.6 | 54.2 | 53.5 | 54.5 | 55.0 | 56.3 | 56.8 | | | |
| 60 | 44.0 | 44.5 | 44.4 | 44.1 | 44.2 | 44.5 | 44.2 | 44.2 | 43.8 | 43.4 | 42.9 | 42.6 | 42.8 | 43.6 | 44.5 | 45.0 | | | |
| 65 | 34.3 | 34.8 | 34.7 | 34.5 | 34.6 | 34.9 | 34.2 | 34.4 | 33.8 | 33.3 | 32.6 | 32.8 | 33.8 | 34.2 | 34.7 | 34.7 | | | |
| 70 | 26.3 | 26.5 | 26.6 | 26.5 | 26.8 | 26.7 | 26.3 | 26.2 | 25.3 | 25.1 | 24.8 | 24.7 | 25.3 | 25.9 | 26.3 | 26.5 | | | |
| 75 | 19.4 | 19.6 | 19.5 | 19.5 | 19.6 | 19.5 | 19.3 | 19.1 | 17.9 | 18.2 | 17.8 | 18.0 | 18.4 | 18.9 | 19.1 | 19.6 | | | |
| 80 | 13.8 | 13.9 | 13.8 | 13.7 | 13.7 | 13.7 | 13.5 | 13.3 | 12.5 | 12.3 | 12.4 | 12.3 | 12.5 | 12.9 | 13.2 | 13.7 | | | |
| 85 | 9.43 | 9.59 | 9.57 | 9.53 | 9.46 | 9.53 | 9.24 | 9.14 | 8.27 | 8.13 | 8.29 | 8.26 | 8.27 | 8.60 | 8.88 | 9.04 | | | |
| 90 | 6.79 | 6.90 | 6.98 | 6.77 | 6.86 | 7.00 | 6.91 | 6.81 | 5.64 | 5.64 | 5.72 | 5.69 | 5.79 | 5.92 | 6.10 | 6.18 | | | |
| 95 | 6.34 | 6.26 | 6.26 | 5.79 | 6.07 | 5.84 | 6.46 | 6.18 | 5.28 | 5.64 | 5.63 | 4.71 | 5.15 | 5.19 | 5.74 | 5.64 | | | |
| 100 | 5.90 | 5.91 | 5.01 | 4.45 | 4.46 | 4.67 | 5.04 | 5.65 | 4.76 | 4.74 | 4.38 | 4.18 | 4.28 | 4.04 | 4.39 | 5.01 | | | |
| 105 | 4.94 | 5.01 | 4.65 | 3.92 | 4.54 | 4.13 | 4.58 | 4.84 | 4.40 | 4.38 | 4.29 | 3.56 | 3.82 | 3.77 | 4.31 | 4.21 | | | |
| 110 | 4.76 | 4.83 | 4.65 | 5.60 | 5.51 | 5.92 | 4.58 | 4.83 | 4.32 | 4.38 | 4.20 | 6.59 | 6.51 | 6.55 | 4.22 | 4.21 | | | |
| 115 | 4.49 | 4.74 | 3.57 | 6.14 | 6.24 | 6.54 | 3.59 | 4.83 | 3.87 | 4.39 | 3.94 | 7.30 | 7.22 | 7.18 | 3.78 | 4.30 | | | |
| 120 | 3.71 | 2.78 | 6.96 | 7.12 | 7.22 | 7.18 | 7.16 | 2.87 | 2.62 | 2.51 | 8.22 | 8.19 | 8.11 | 8.08 | 7.46 | 2.86 | | | |
| 125 | 1.41 | 3.57 | 8.38 | 8.19 | 8.20 | 8.52 | 8.61 | 4.63 | 1.76 | 5.55 | 9.20 | 9.16 | 7.67 | 9.33 | 9.07 | 4.42 | | | |
| 130 | 4.56 | 7.15 | 9.46 | 9.87 | 7.85 | 10.05 | 9.78 | 7.60 | 5.73 | 7.43 | 10.5 | 10.4 | 6.63 | 10.5 | 10.1 | 7.25 | | | |
| 135 | 5.73 | 7.25 | 10.5 | 10.7 | 4.28 | 10.6 | 11.1 | 7.79 | 6.87 | 7.33 | 11.7 | 10.3 | 4.64 | 10.9 | 11.3 | 7.07 | | | |
| 140 | 7.13 | 5.82 | 11.7 | 9.00 | 4.37 | 7.12 | 11.9 | 7.52 | 7.66 | 5.71 | 12.1 | 7.10 | 4.28 | 7.96 | 12.0 | 6.09 | | | |
| 145 | 7.75 | 3.14 | 11.7 | 3.03 | 2.06 | 2.06 | 12.1 | 5.12 | 7.93 | 2.31 | 11.7 | 3.56 | 3.54 | 3.00 | 12.0 | 4.65 | | | |
| 150 | 8.28 | 1.70 | 11.0 | 8.69 | 4.19 | 11.9 | 11.3 | 2.69 | 8.19 | 1.62 | 9.81 | 4.28 | 10.0 | 12.8 | 11.3 | 3.67 | | | |
| 155 | 7.94 | 1.16 | 6.82 | 11.2 | 4.19 | 11.8 | 6.82 | 1.16 | 5.99 | 3.13 | 4.27 | 6.05 | 10.3 | 11.6 | 3.03 | 2.86 | | | |
| 160 | 6.79 | 1.52 | 0.10 | 8.20 | 3.30 | 8.53 | 0.18 | 1.07 | 4.66 | 2.95 | 0.36 | 5.77 | 5.79 | 7.16 | 5.82 | 0.00 | | | |
| 165 | 0.99 | 0.36 | 0.36 | 0.27 | 0.18 | 0.27 | 0.99 | 0.36 | 0.53 | 0.54 | 0.90 | 0.71 | 2.58 | 2.75 | 2.50 | 0.00 | | | |
| 170 | 1.85 | 1.43 | 0.36 | 0.27 | 0.18 | 0.54 | 0.45 | 1.25 | 2.55 | 2.59 | 0.98 | 0.36 | 0.27 | 0.27 | 0.54 | 0.18 | | | |
| 175 | 1.85 | 1.70 | 0.36 | 0.27 | 0.18 | 0.45 | 0.36 | 1.17 | 0.53 | 0.63 | 0.36 | 0.36 | 0.27 | 0.27 | 0.45 | 0.18 | | | |
| 180 | 0.28 | 0.12 | 0.36 | 0.27 | 0.18 | 0.45 | 0.36 | 0.27 | 0.35 | 0.54 | 0.45 | 0.36 | 0.27 | 0.18 | 0.45 | 0.45 | | | |



Guangdong Meide Testing Technology Co., Ltd.



6.Photo of sample



Figure 1

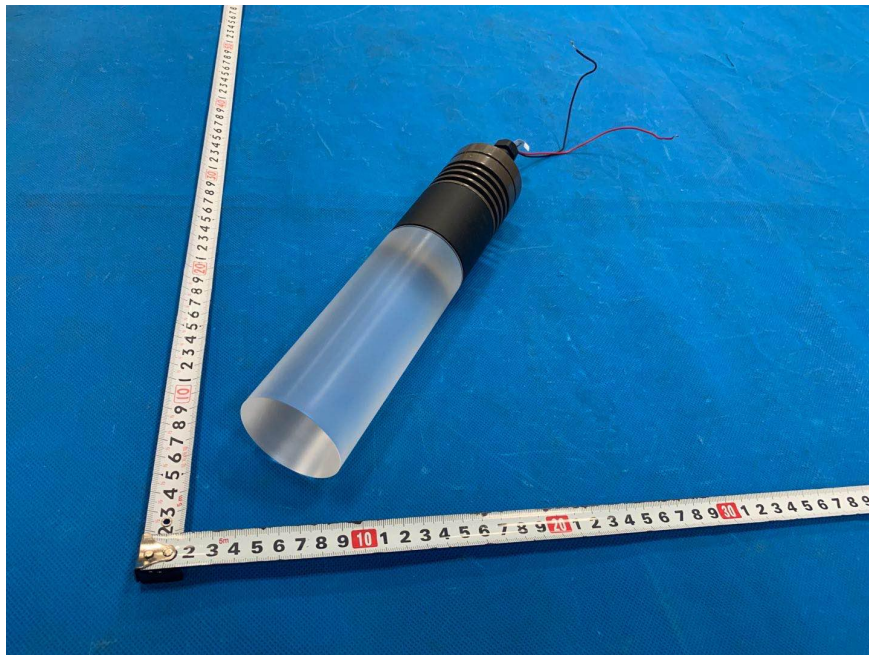


Figure 2

***** END OF THE TEST REPORT*****