

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: HALO COMMERCIAL

Report Number: P776511

Luminaire Tested: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776511  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA ( A2310613A001)  
Test Lab:  
Issue Date: 2/7/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: HALO COMMERCIAL  
Catalog Number: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K  
Description: 8 INCH SQUARE MEDIUM SPECULAR CLEAR TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 3000K CCT  
Ballast/Driver: -

**Summary**

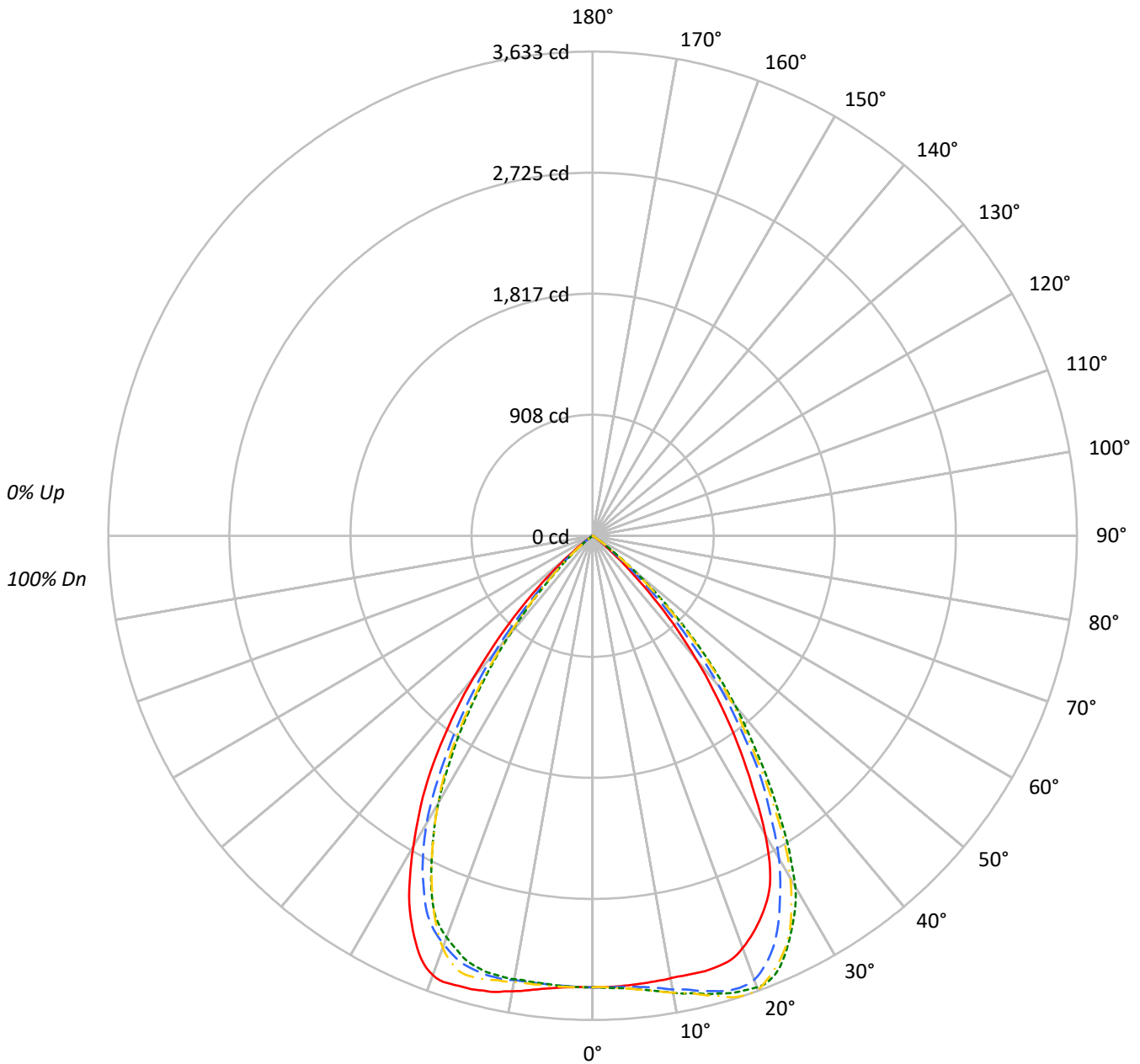
Lumens per Lamp: N/A  
Luminaire Lumens: 4553.4 lumens  
Efficiency: N/A  
Efficacy: 118.3 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.07  
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')  
CIE Type: Direct

Input Watts (W): 38.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



TEST NUMBER: P776511  
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

### Luminous Intensity Polar Plot





TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |   |  |   |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|-----|---|--|---|
| RF  | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |    |    |    |    |     |   |  |   |
| RC  | 80  |     |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |    |    | 10 |    |     |   |  | 0 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 | 50 | 30 | 10  | 0 |  |   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |    |     |   |  |   |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    |    | 100 |   |  |   |
| 1   | 113 | 110 | 108 | 105 | 111 | 108 | 106 | 104 | 104 | 102 | 100 | 100 | 99  | 97  | 97  | 96  | 95  | 93  |    |    |    |    | 93  |   |  |   |
| 2   | 107 | 102 | 98  | 94  | 105 | 100 | 96  | 93  | 97  | 94  | 91  | 94  | 91  | 89  | 91  | 89  | 87  | 85  |    |    |    |    | 85  |   |  |   |
| 3   | 101 | 94  | 89  | 85  | 99  | 93  | 88  | 84  | 90  | 86  | 83  | 88  | 84  | 81  | 85  | 82  | 80  | 78  |    |    |    |    | 78  |   |  |   |
| 4   | 95  | 87  | 81  | 77  | 93  | 86  | 80  | 76  | 84  | 79  | 75  | 82  | 78  | 74  | 80  | 76  | 74  | 72  |    |    |    |    | 72  |   |  |   |
| 5   | 90  | 81  | 75  | 70  | 88  | 80  | 74  | 70  | 78  | 73  | 69  | 76  | 72  | 68  | 75  | 71  | 68  | 66  |    |    |    |    | 66  |   |  |   |
| 6   | 85  | 75  | 69  | 64  | 83  | 74  | 68  | 64  | 73  | 67  | 63  | 71  | 67  | 63  | 70  | 66  | 62  | 61  |    |    |    |    | 61  |   |  |   |
| 7   | 80  | 70  | 63  | 59  | 79  | 69  | 63  | 59  | 68  | 62  | 58  | 67  | 62  | 58  | 66  | 61  | 58  | 56  |    |    |    |    | 56  |   |  |   |
| 8   | 76  | 65  | 59  | 54  | 74  | 65  | 59  | 54  | 64  | 58  | 54  | 62  | 57  | 54  | 61  | 57  | 53  | 52  |    |    |    |    | 52  |   |  |   |
| 9   | 71  | 61  | 55  | 50  | 70  | 61  | 54  | 50  | 60  | 54  | 50  | 59  | 54  | 50  | 58  | 53  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 10  | 68  | 57  | 51  | 47  | 67  | 57  | 51  | 47  | 56  | 50  | 47  | 55  | 50  | 46  | 54  | 50  | 46  | 45  |    |    |    |    | 45  |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  | 270°  |
|-----|-------|-------|-------|-------|
| 0°  | 81225 | 81225 | 81225 | 81225 |
| 5°  | 81431 | 82137 | 81997 | 81441 |
| 10° | 82066 | 84774 | 84506 | 82268 |
| 15° | 83720 | 88335 | 87421 | 83186 |
| 20° | 84011 | 91998 | 89471 | 81773 |
| 25° | 81110 | 90926 | 84973 | 75819 |
| 30° | 71847 | 84254 | 74514 | 64100 |
| 35° | 55146 | 68743 | 60942 | 47951 |
| 40° | 37900 | 52242 | 43400 | 30194 |
| 45° | 19933 | 33931 | 24843 | 14148 |
| 50° | 6685  | 15328 | 9546  | 4585  |
| 55° | 472   | 3319  | 1045  | 113   |
| 60° | 77    | 96    | 77    | 58    |
| 65° | 45    | 45    | 45    | 23    |
| 70° | 28    | 28    | 28    | 28    |
| 75° | 37    | 37    | 37    | 0     |
| 80° | 0     | 0     | 0     | 0     |
| 85° | 0     | 0     | 0     | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 112.5°

Vertical Angle: 45°

Luminance: 34290 cd/sqm



TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 325.2  | 7.1       |
| 10°-20°   | 978.0  | 21.5      |
| 20°-30°   | 1426.2 | 31.3      |
| 30°-40°   | 1228.8 | 27.0      |
| 40°-50°   | 540.3  | 11.9      |
| 50°-60°   | 53.8   | 1.2       |
| 60°-70°   | 0.8    | 0.0       |
| 70°-80°   | 0.2    | 0.0       |
| 80°-90°   | 0.0    | 0.0       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 2729.3 | 59.9      |
| 0°-40°    | 3958.2 | 86.9      |
| 0°-60°    | 4552.3 | 100.0     |
| 0°-90°    | 4553.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4553.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 90°  | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 3387 | 3387 | 3387 | 3387 | 3387 |      |
| 5°  | 3383 | 3412 | 3407 | 3384 | 3383 | 323  |
| 15° | 3372 | 3558 | 3522 | 3351 | 3372 | 951  |
| 25° | 3066 | 3437 | 3212 | 2866 | 3066 | 1391 |
| 35° | 1884 | 2348 | 2082 | 1638 | 1884 | 1168 |
| 45° | 588  | 1001 | 733  | 417  | 588  | 470  |
| 55° | 11   | 79   | 25   | 3    | 11   | 38   |
| 65° | 1    | 1    | 1    | 0    | 1    | 1    |
| 75° | 0    | 0    | 0    | 0    | 0    | 0    |
| 85° | 0    | 0    | 0    | 0    | 0    | 0    |
| 90° | 0    | 0    | 0    | 0    | 0    |      |



TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   | 202.5° | 225°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 |
| 0.5°  | 3388.2 | 3389.7 | 3390.5 | 3387.8 | 3388.9 | 3387.0 | 3385.4 | 3386.2 | 3387.4 | 3388.5 | 3388.5 |
| 1°    | 3388.2 | 3390.1 | 3390.9 | 3389.7 | 3390.1 | 3388.2 | 3385.8 | 3386.6 | 3387.8 | 3388.5 | 3388.5 |
| 1.5°  | 3388.2 | 3389.7 | 3390.5 | 3390.9 | 3392.5 | 3390.1 | 3387.0 | 3387.8 | 3387.8 | 3388.2 | 3387.8 |
| 2°    | 3387.4 | 3388.5 | 3390.1 | 3392.1 | 3394.8 | 3392.9 | 3390.1 | 3389.7 | 3388.9 | 3388.2 | 3387.4 |
| 2.5°  | 3387.4 | 3388.5 | 3390.5 | 3392.1 | 3396.8 | 3396.8 | 3392.9 | 3392.1 | 3391.3 | 3388.5 | 3386.2 |
| 3°    | 3386.2 | 3388.2 | 3390.9 | 3393.2 | 3398.3 | 3397.9 | 3396.8 | 3396.4 | 3392.9 | 3388.9 | 3385.4 |
| 3.5°  | 3385.4 | 3387.4 | 3392.1 | 3395.6 | 3400.3 | 3400.7 | 3399.9 | 3399.5 | 3395.2 | 3390.1 | 3384.6 |
| 4°    | 3384.2 | 3386.2 | 3393.2 | 3398.3 | 3403.8 | 3404.6 | 3403.8 | 3404.2 | 3398.7 | 3390.9 | 3383.9 |
| 4.5°  | 3383.9 | 3386.2 | 3395.2 | 3401.9 | 3407.7 | 3409.3 | 3408.5 | 3408.1 | 3402.6 | 3392.5 | 3382.3 |
| 5°    | 3383.1 | 3386.2 | 3397.6 | 3406.6 | 3412.4 | 3413.6 | 3414.0 | 3414.0 | 3406.6 | 3394.0 | 3382.3 |
| 5.5°  | 3382.3 | 3387.8 | 3400.7 | 3412.0 | 3417.1 | 3418.7 | 3419.1 | 3420.6 | 3411.6 | 3396.0 | 3381.9 |
| 6°    | 3381.1 | 3388.5 | 3404.2 | 3417.1 | 3422.6 | 3424.2 | 3425.3 | 3426.9 | 3416.7 | 3398.7 | 3381.9 |
| 6.5°  | 3379.5 | 3389.7 | 3408.9 | 3423.4 | 3428.9 | 3429.6 | 3432.0 | 3433.6 | 3423.0 | 3402.6 | 3382.3 |
| 7°    | 3378.0 | 3390.9 | 3414.0 | 3430.4 | 3435.5 | 3435.5 | 3438.2 | 3441.0 | 3429.6 | 3406.2 | 3382.3 |
| 7.5°  | 3376.8 | 3392.5 | 3419.9 | 3438.6 | 3442.2 | 3442.2 | 3444.1 | 3447.6 | 3436.3 | 3410.5 | 3382.3 |
| 8°    | 3376.4 | 3394.8 | 3425.7 | 3446.9 | 3449.2 | 3449.2 | 3451.9 | 3456.2 | 3443.7 | 3414.4 | 3382.7 |
| 8.5°  | 3375.6 | 3398.7 | 3432.4 | 3455.5 | 3456.6 | 3457.4 | 3459.4 | 3464.1 | 3451.2 | 3418.3 | 3383.5 |
| 9°    | 3374.9 | 3403.0 | 3440.2 | 3465.3 | 3465.3 | 3465.3 | 3466.4 | 3472.7 | 3458.2 | 3422.6 | 3383.9 |
| 9.5°  | 3372.9 | 3406.6 | 3448.8 | 3474.3 | 3472.7 | 3473.5 | 3473.5 | 3480.5 | 3464.9 | 3426.5 | 3383.9 |
| 10°   | 3370.5 | 3410.1 | 3455.9 | 3484.0 | 3481.7 | 3482.5 | 3481.3 | 3487.2 | 3470.7 | 3430.4 | 3385.8 |
| 10.5° | 3369.0 | 3412.8 | 3462.1 | 3492.6 | 3490.3 | 3491.1 | 3488.7 | 3493.4 | 3476.6 | 3435.9 | 3390.5 |
| 11°   | 3369.0 | 3416.3 | 3468.0 | 3499.3 | 3498.5 | 3498.9 | 3495.4 | 3499.3 | 3482.9 | 3443.7 | 3394.4 |
| 11.5° | 3370.5 | 3421.4 | 3474.3 | 3505.6 | 3504.8 | 3505.6 | 3501.6 | 3505.9 | 3492.3 | 3450.8 | 3395.6 |
| 12°   | 3371.3 | 3428.1 | 3482.9 | 3512.6 | 3509.5 | 3512.6 | 3509.5 | 3515.7 | 3499.7 | 3457.4 | 3394.4 |
| 12.5° | 3371.3 | 3434.7 | 3493.4 | 3520.4 | 3515.7 | 3520.0 | 3518.9 | 3525.1 | 3505.6 | 3458.6 | 3392.5 |
| 13°   | 3370.9 | 3438.6 | 3504.0 | 3530.2 | 3524.0 | 3529.0 | 3530.6 | 3532.6 | 3508.3 | 3460.6 | 3392.1 |
| 13.5° | 3371.7 | 3441.0 | 3513.8 | 3539.2 | 3534.5 | 3539.2 | 3543.5 | 3536.9 | 3510.3 | 3464.5 | 3390.9 |
| 14°   | 3373.3 | 3442.9 | 3520.8 | 3545.5 | 3544.7 | 3550.6 | 3554.1 | 3539.6 | 3513.8 | 3468.4 | 3388.2 |
| 14.5° | 3373.7 | 3445.7 | 3528.6 | 3549.0 | 3552.5 | 3559.2 | 3562.7 | 3543.9 | 3518.1 | 3471.1 | 3383.5 |
| 15°   | 3372.5 | 3447.6 | 3537.6 | 3552.1 | 3558.4 | 3565.0 | 3572.1 | 3550.6 | 3521.6 | 3473.1 | 3378.4 |
| 15.5° | 3369.4 | 3447.6 | 3546.6 | 3558.4 | 3564.6 | 3569.3 | 3584.6 | 3556.0 | 3522.4 | 3473.5 | 3372.5 |
| 16°   | 3366.2 | 3444.5 | 3554.9 | 3563.9 | 3572.5 | 3575.6 | 3598.7 | 3559.6 | 3522.8 | 3475.0 | 3367.4 |
| 16.5° | 3362.7 | 3439.8 | 3560.3 | 3566.2 | 3580.7 | 3583.0 | 3611.2 | 3560.7 | 3523.6 | 3476.2 | 3361.5 |
| 17°   | 3358.8 | 3434.3 | 3563.9 | 3566.2 | 3587.0 | 3588.1 | 3620.6 | 3559.2 | 3525.1 | 3477.4 | 3353.3 |
| 17.5° | 3354.5 | 3429.6 | 3565.8 | 3565.0 | 3590.9 | 3590.5 | 3626.5 | 3557.6 | 3526.7 | 3475.8 | 3342.8 |
| 18°   | 3348.2 | 3424.6 | 3565.8 | 3563.5 | 3593.6 | 3590.1 | 3629.6 | 3556.4 | 3529.0 | 3468.8 | 3328.3 |
| 18.5° | 3337.7 | 3419.5 | 3564.3 | 3561.5 | 3596.3 | 3590.1 | 3631.6 | 3554.5 | 3529.8 | 3457.4 | 3312.2 |
| 19°   | 3324.0 | 3412.8 | 3561.5 | 3560.0 | 3599.5 | 3591.7 | 3633.1 | 3552.1 | 3526.7 | 3439.8 | 3297.0 |
| 19.5° | 3308.7 | 3404.2 | 3556.4 | 3558.0 | 3602.2 | 3594.4 | 3630.8 | 3545.9 | 3518.5 | 3421.0 | 3280.9 |
| 20°   | 3292.3 | 3392.9 | 3546.3 | 3554.9 | 3605.3 | 3597.1 | 3624.5 | 3535.7 | 3506.3 | 3400.3 | 3263.7 |
| 20.5° | 3274.3 | 3380.3 | 3531.0 | 3549.0 | 3606.5 | 3597.9 | 3612.0 | 3524.0 | 3493.0 | 3377.6 | 3245.7 |
| 21°   | 3254.7 | 3367.0 | 3511.4 | 3539.2 | 3603.8 | 3594.8 | 3594.8 | 3510.3 | 3475.0 | 3351.0 | 3226.9 |



TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   | 202.5° | 225°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 22.5° | 3191.3 | 3318.1 | 3441.4 | 3498.5 | 3567.8 | 3579.5 | 3538.4 | 3467.6 | 3397.2 | 3262.1 | 3160.4 |
| 23°   | 3167.8 | 3295.8 | 3414.8 | 3484.0 | 3549.0 | 3569.7 | 3516.9 | 3449.6 | 3364.7 | 3228.5 | 3133.4 |
| 23.5° | 3143.6 | 3270.0 | 3384.6 | 3465.6 | 3526.3 | 3557.2 | 3493.8 | 3429.6 | 3329.8 | 3193.3 | 3103.3 |
| 24°   | 3118.9 | 3240.6 | 3351.8 | 3446.1 | 3498.9 | 3540.0 | 3469.6 | 3406.2 | 3291.1 | 3155.7 | 3068.4 |
| 24.5° | 3093.1 | 3207.0 | 3314.6 | 3423.8 | 3468.0 | 3519.3 | 3444.1 | 3379.2 | 3252.4 | 3115.8 | 3030.1 |
| 25°   | 3065.7 | 3171.0 | 3275.5 | 3396.8 | 3436.7 | 3493.0 | 3415.6 | 3347.1 | 3211.7 | 3072.4 | 2986.3 |
| 25.5° | 3036.4 | 3132.6 | 3232.4 | 3365.9 | 3403.4 | 3462.9 | 3384.6 | 3311.5 | 3171.4 | 3029.3 | 2942.8 |
| 26°   | 3005.4 | 3091.9 | 3187.8 | 3329.8 | 3369.0 | 3428.5 | 3349.4 | 3271.5 | 3126.4 | 2980.8 | 2899.0 |
| 26.5° | 2970.2 | 3049.3 | 3140.8 | 3289.9 | 3332.2 | 3389.3 | 3312.2 | 3227.3 | 3080.2 | 2931.9 | 2855.2 |
| 27°   | 2931.5 | 3001.9 | 3092.7 | 3244.1 | 3296.2 | 3346.3 | 3270.0 | 3178.4 | 3032.8 | 2883.3 | 2811.3 |
| 27.5° | 2885.7 | 2952.2 | 3045.4 | 3192.9 | 3259.8 | 3302.1 | 3226.1 | 3127.9 | 2976.9 | 2834.8 | 2759.3 |
| 28°   | 2836.0 | 2900.2 | 2997.6 | 3136.1 | 3221.8 | 3250.4 | 3177.2 | 3075.1 | 2920.9 | 2786.3 | 2708.0 |
| 28.5° | 2781.6 | 2846.6 | 2951.0 | 3076.3 | 3182.7 | 3197.2 | 3125.6 | 3025.0 | 2864.9 | 2734.6 | 2656.0 |
| 29°   | 2722.9 | 2793.7 | 2901.3 | 3016.4 | 3141.2 | 3142.0 | 3074.3 | 2967.9 | 2809.0 | 2681.4 | 2601.6 |
| 29.5° | 2659.9 | 2738.9 | 2850.5 | 2956.5 | 3095.0 | 3084.5 | 3023.4 | 2910.3 | 2752.6 | 2627.8 | 2546.8 |
| 30°   | 2594.9 | 2684.9 | 2796.9 | 2895.5 | 3043.0 | 3022.7 | 2965.5 | 2852.8 | 2691.2 | 2570.3 | 2490.0 |
| 30.5° | 2523.3 | 2631.7 | 2738.2 | 2836.0 | 2977.7 | 2960.8 | 2907.6 | 2795.7 | 2630.9 | 2512.7 | 2431.0 |
| 31°   | 2450.5 | 2579.7 | 2675.5 | 2776.1 | 2912.3 | 2899.0 | 2850.1 | 2729.9 | 2573.0 | 2452.5 | 2364.8 |
| 31.5° | 2375.8 | 2524.5 | 2611.8 | 2717.0 | 2846.9 | 2837.2 | 2792.2 | 2663.4 | 2513.1 | 2391.8 | 2295.2 |
| 32°   | 2304.2 | 2463.0 | 2548.4 | 2659.5 | 2781.6 | 2774.9 | 2719.8 | 2594.9 | 2454.4 | 2330.8 | 2224.3 |
| 32.5° | 2231.0 | 2398.1 | 2486.5 | 2599.6 | 2710.8 | 2715.8 | 2645.4 | 2528.0 | 2396.9 | 2270.5 | 2155.1 |
| 33°   | 2160.9 | 2329.6 | 2427.4 | 2537.4 | 2636.0 | 2652.1 | 2568.7 | 2461.9 | 2339.0 | 2208.7 | 2082.7 |
| 33.5° | 2090.9 | 2256.8 | 2369.1 | 2474.4 | 2562.4 | 2588.3 | 2493.2 | 2392.2 | 2277.2 | 2144.5 | 2013.4 |
| 34°   | 2022.4 | 2180.9 | 2312.0 | 2410.6 | 2489.3 | 2516.3 | 2422.0 | 2322.2 | 2214.9 | 2077.6 | 1942.6 |
| 34.5° | 1953.5 | 2108.9 | 2250.9 | 2343.7 | 2418.0 | 2440.0 | 2350.3 | 2253.3 | 2150.4 | 2006.0 | 1874.9 |
| 35°   | 1883.9 | 2037.3 | 2186.0 | 2276.0 | 2348.4 | 2359.7 | 2279.1 | 2187.5 | 2081.9 | 1934.0 | 1804.8 |
| 35.5° | 1817.7 | 1967.6 | 2117.5 | 2208.7 | 2278.7 | 2280.7 | 2204.4 | 2119.5 | 2010.3 | 1862.0 | 1738.3 |
| 36°   | 1745.3 | 1899.5 | 2044.3 | 2140.2 | 2208.3 | 2199.7 | 2131.2 | 2053.3 | 1939.4 | 1791.1 | 1669.0 |
| 36.5° | 1672.9 | 1830.3 | 1967.2 | 2070.5 | 2135.9 | 2121.0 | 2055.3 | 1984.8 | 1870.2 | 1725.0 | 1600.9 |
| 37°   | 1603.3 | 1759.4 | 1894.1 | 1999.3 | 2065.1 | 2043.5 | 1983.3 | 1918.3 | 1802.9 | 1659.6 | 1532.1 |
| 37.5° | 1535.2 | 1691.7 | 1824.4 | 1932.8 | 1995.4 | 1973.1 | 1914.8 | 1853.4 | 1737.9 | 1593.5 | 1464.4 |
| 38°   | 1469.8 | 1624.8 | 1756.7 | 1864.7 | 1926.9 | 1907.7 | 1851.4 | 1791.1 | 1669.4 | 1526.6 | 1398.6 |
| 38.5° | 1409.2 | 1556.7 | 1691.7 | 1799.0 | 1860.4 | 1845.5 | 1790.7 | 1724.2 | 1599.4 | 1459.7 | 1334.4 |
| 39°   | 1343.4 | 1487.5 | 1624.8 | 1731.6 | 1797.0 | 1786.0 | 1732.0 | 1656.9 | 1528.5 | 1393.1 | 1271.8 |
| 39.5° | 1277.3 | 1419.4 | 1556.3 | 1658.9 | 1734.0 | 1726.6 | 1672.2 | 1584.9 | 1456.5 | 1323.5 | 1208.0 |
| 40°   | 1210.8 | 1352.4 | 1485.5 | 1580.2 | 1669.0 | 1668.6 | 1611.5 | 1515.2 | 1386.5 | 1253.4 | 1143.1 |
| 40.5° | 1144.6 | 1285.9 | 1415.8 | 1504.3 | 1602.9 | 1606.8 | 1548.5 | 1445.2 | 1314.1 | 1181.8 | 1076.9 |
| 41°   | 1078.5 | 1219.0 | 1343.1 | 1433.1 | 1534.0 | 1544.2 | 1484.7 | 1378.7 | 1246.4 | 1111.4 | 1010.4 |
| 41.5° | 1015.1 | 1152.1 | 1270.3 | 1365.8 | 1465.5 | 1482.4 | 1420.5 | 1312.5 | 1179.9 | 1042.9 | 943.9  |
| 42°   | 953.3  | 1085.6 | 1197.1 | 1298.8 | 1395.5 | 1418.6 | 1354.4 | 1248.4 | 1113.3 | 974.4  | 877.0  |
| 42.5° | 892.6  | 1017.9 | 1124.3 | 1231.9 | 1327.0 | 1354.4 | 1288.3 | 1182.6 | 1047.6 | 909.1  | 811.6  |
| 43°   | 829.2  | 949.8  | 1051.5 | 1165.4 | 1260.9 | 1287.1 | 1220.2 | 1117.3 | 981.1  | 846.1  | 748.2  |
| 43.5° | 767.0  | 880.1  | 984.2  | 1098.1 | 1193.6 | 1218.6 | 1151.7 | 1051.1 | 915.3  | 784.2  | 685.6  |



TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°    | 112.5° | 135°  | 157.5° | 180°  | 202.5° | 225°  |
|-------|-------|-------|-------|-------|--------|--------|-------|--------|-------|--------|-------|
| 45°   | 587.8 | 684.0 | 791.7 | 904.0 | 1000.6 | 1011.2 | 952.9 | 861.7  | 732.6 | 607.3  | 513.8 |
| 45.5° | 531.4 | 625.0 | 734.1 | 841.8 | 935.3  | 942.7  | 886.8 | 801.1  | 675.0 | 553.3  | 463.3 |
| 46°   | 477.4 | 569.8 | 676.2 | 780.7 | 869.5  | 875.0  | 822.2 | 740.8  | 621.8 | 502.5  | 416.4 |
| 46.5° | 425.8 | 516.2 | 620.3 | 719.3 | 806.9  | 808.9  | 759.2 | 680.5  | 567.8 | 453.6  | 378.4 |
| 47°   | 377.2 | 465.7 | 566.3 | 660.6 | 745.1  | 743.1  | 697.0 | 622.2  | 517.3 | 410.1  | 340.5 |
| 47.5° | 332.2 | 418.7 | 514.2 | 602.7 | 685.2  | 680.9  | 635.1 | 565.5  | 467.6 | 372.9  | 302.1 |
| 48°   | 291.9 | 375.7 | 463.3 | 548.6 | 626.1  | 621.8  | 578.0 | 511.9  | 421.1 | 335.4  | 264.1 |
| 48.5° | 257.5 | 335.4 | 416.0 | 497.8 | 566.6  | 564.3  | 522.0 | 460.2  | 379.6 | 298.2  | 234.8 |
| 49°   | 227.8 | 298.2 | 372.5 | 448.9 | 509.9  | 508.7  | 468.8 | 416.4  | 338.5 | 261.0  | 208.2 |
| 49.5° | 201.9 | 264.1 | 331.5 | 400.7 | 455.5  | 456.7  | 424.2 | 372.5  | 297.0 | 229.7  | 184.3 |
| 50°   | 179.2 | 233.2 | 293.1 | 353.4 | 410.9  | 412.5  | 379.2 | 328.7  | 255.9 | 201.9  | 162.0 |
| 50.5° | 157.7 | 204.3 | 257.9 | 309.2 | 366.3  | 368.6  | 334.6 | 284.9  | 222.3 | 175.3  | 139.7 |
| 51°   | 137.4 | 177.3 | 224.6 | 268.1 | 322.1  | 324.4  | 290.0 | 241.1  | 192.1 | 150.7  | 119.0 |
| 51.5° | 119.4 | 154.2 | 194.9 | 231.3 | 277.5  | 280.6  | 245.0 | 208.2  | 165.1 | 127.2  | 100.6 |
| 52°   | 101.4 | 131.5 | 167.1 | 198.8 | 233.6  | 236.4  | 210.5 | 177.7  | 139.7 | 105.7  | 82.2  |
| 52.5° | 83.4  | 112.7 | 141.7 | 168.7 | 200.4  | 200.8  | 178.8 | 150.7  | 115.8 | 86.5   | 66.5  |
| 53°   | 65.4  | 93.9  | 121.3 | 142.1 | 169.8  | 169.8  | 150.7 | 125.6  | 94.7  | 70.0   | 51.3  |
| 53.5° | 47.4  | 74.7  | 101.4 | 121.3 | 142.8  | 142.1  | 124.8 | 102.9  | 77.1  | 54.0   | 35.6  |
| 54°   | 27.8  | 56.0  | 81.4  | 101.0 | 117.4  | 116.2  | 102.1 | 83.7   | 59.9  | 38.0   | 20.3  |
| 54.5° | 14.1  | 36.0  | 61.4  | 80.2  | 94.7   | 94.7   | 82.6  | 68.1   | 42.3  | 21.9   | 5.5   |
| 55°   | 11.3  | 19.2  | 41.5  | 59.9  | 79.4   | 77.1   | 66.9  | 52.0   | 25.0  | 6.3    | 3.9   |
| 55.5° | 8.6   | 16.0  | 22.7  | 39.1  | 64.6   | 59.9   | 51.3  | 36.4   | 8.2   | 4.3    | 3.1   |
| 56°   | 5.9   | 12.5  | 10.2  | 20.3  | 49.3   | 42.7   | 36.0  | 20.7   | 4.7   | 3.5    | 2.7   |
| 56.5° | 3.5   | 9.4   | 7.8   | 8.6   | 34.4   | 25.0   | 20.3  | 5.1    | 3.9   | 3.1    | 2.3   |
| 57°   | 3.1   | 6.3   | 6.3   | 6.7   | 19.2   | 7.8    | 5.1   | 3.9    | 3.1   | 2.7    | 2.0   |
| 57.5° | 2.7   | 3.1   | 4.7   | 5.5   | 4.3    | 4.3    | 3.9   | 3.5    | 2.7   | 2.3    | 2.0   |
| 58°   | 2.3   | 2.7   | 2.7   | 3.9   | 3.5    | 3.5    | 3.1   | 3.1    | 2.3   | 2.0    | 1.6   |
| 58.5° | 2.3   | 2.3   | 2.3   | 2.7   | 2.7    | 2.7    | 2.7   | 2.7    | 2.3   | 2.0    | 1.6   |
| 59°   | 2.0   | 2.0   | 2.3   | 2.3   | 2.3    | 2.3    | 2.3   | 2.3    | 2.0   | 1.6    | 1.6   |
| 59.5° | 2.0   | 2.0   | 2.0   | 2.0   | 2.3    | 2.3    | 2.3   | 2.0    | 2.0   | 1.6    | 1.2   |
| 60°   | 1.6   | 1.6   | 1.6   | 2.0   | 2.0    | 2.0    | 2.0   | 2.0    | 1.6   | 1.6    | 1.2   |
| 60.5° | 1.6   | 1.6   | 1.6   | 1.6   | 1.6    | 2.0    | 2.0   | 2.0    | 1.6   | 1.2    | 1.2   |
| 61°   | 1.6   | 1.6   | 1.6   | 1.6   | 1.6    | 1.6    | 1.6   | 1.6    | 1.6   | 1.2    | 1.2   |
| 61.5° | 1.2   | 1.6   | 1.2   | 1.2   | 1.6    | 1.6    | 1.6   | 1.6    | 1.2   | 1.2    | 1.2   |
| 62°   | 1.2   | 1.2   | 1.2   | 1.2   | 1.2    | 1.6    | 1.6   | 1.6    | 1.2   | 1.2    | 0.8   |
| 62.5° | 1.2   | 1.2   | 1.2   | 1.2   | 1.2    | 1.2    | 1.2   | 1.2    | 1.2   | 1.2    | 0.8   |
| 63°   | 1.2   | 1.2   | 1.2   | 1.2   | 1.2    | 1.2    | 1.2   | 1.2    | 1.2   | 0.8    | 0.8   |
| 63.5° | 1.2   | 1.2   | 1.2   | 1.2   | 1.2    | 1.2    | 1.2   | 1.2    | 1.2   | 0.8    | 0.8   |
| 64°   | 0.8   | 1.2   | 0.8   | 0.8   | 1.2    | 1.2    | 1.2   | 1.2    | 0.8   | 0.8    | 0.8   |
| 64.5° | 0.8   | 0.8   | 0.8   | 0.8   | 0.8    | 1.2    | 1.2   | 1.2    | 0.8   | 0.8    | 0.8   |
| 65°   | 0.8   | 0.8   | 0.8   | 0.8   | 0.8    | 0.8    | 0.8   | 0.8    | 0.8   | 0.8    | 0.8   |
| 65.5° | 0.8   | 0.8   | 0.8   | 0.8   | 0.8    | 0.8    | 0.8   | 0.8    | 0.8   | 0.8    | 0.8   |
| 66°   | 0.8   | 0.8   | 0.8   | 0.8   | 0.8    | 0.8    | 0.8   | 0.8    | 0.8   | 0.8    | 0.4   |





TEST NUMBER: P776511  
 CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|       | 0°  | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-------|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 67.5° | 0.8 | 0.8   | 0.8 | 0.8   | 0.8 | 0.8    | 0.8  | 0.8    | 0.8  | 0.4    | 0.4  |
| 68°   | 0.8 | 0.8   | 0.4 | 0.4   | 0.8 | 0.8    | 0.8  | 0.8    | 0.4  | 0.4    | 0.4  |
| 68.5° | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.8  | 0.8    | 0.4  | 0.4    | 0.4  |
| 69°   | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 69.5° | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 70°   | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 70.5° | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 71°   | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 71.5° | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 72°   | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 72.5° | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 73°   | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 73.5° | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.0  |
| 74°   | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.0  |
| 74.5° | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.0    | 0.0  |
| 75°   | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.4  | 0.0    | 0.0  |
| 75.5° | 0.4 | 0.4   | 0.4 | 0.4   | 0.4 | 0.4    | 0.4  | 0.4    | 0.0  | 0.0    | 0.0  |
| 76°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.4    | 0.4  | 0.4    | 0.0  | 0.0    | 0.0  |
| 76.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 77°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 77.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 78°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 78.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 79°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 79.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 80°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 80.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 81°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 81.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 82°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 82.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 83°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 83.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 84°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 84.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 85°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 85.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 86°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 86.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88°   | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88.5° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |



TEST NUMBER: P776511  
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° | 202.5° | 225° |
|-----|-----|-------|-----|-------|-----|--------|------|--------|------|--------|------|
| 90° | 0.0 | 0.0   | 0.0 | 0.0   | 0.0 | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |



TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 0°    | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 | 3387.4 |
| 0.5°  | 3386.6 | 3388.9 | 3386.6 | 3385.4 | 3386.2 | 3388.2 |
| 1°    | 3386.6 | 3388.5 | 3387.4 | 3385.8 | 3387.4 | 3388.2 |
| 1.5°  | 3386.2 | 3388.5 | 3387.8 | 3386.6 | 3387.4 | 3388.2 |
| 2°    | 3385.4 | 3388.2 | 3388.2 | 3387.8 | 3387.8 | 3387.4 |
| 2.5°  | 3383.9 | 3387.4 | 3388.9 | 3388.9 | 3388.2 | 3387.4 |
| 3°    | 3382.7 | 3386.6 | 3389.7 | 3390.9 | 3388.9 | 3386.2 |
| 3.5°  | 3381.1 | 3386.2 | 3390.9 | 3391.3 | 3388.9 | 3385.4 |
| 4°    | 3379.5 | 3385.8 | 3391.3 | 3392.9 | 3388.9 | 3384.2 |
| 4.5°  | 3377.6 | 3384.2 | 3392.1 | 3393.2 | 3388.5 | 3383.9 |
| 5°    | 3376.0 | 3383.5 | 3392.1 | 3393.2 | 3388.2 | 3383.1 |
| 5.5°  | 3374.9 | 3382.3 | 3391.3 | 3393.2 | 3386.6 | 3382.3 |
| 6°    | 3373.3 | 3381.1 | 3390.9 | 3392.5 | 3386.2 | 3381.1 |
| 6.5°  | 3370.5 | 3379.9 | 3390.9 | 3392.5 | 3385.4 | 3379.5 |
| 7°    | 3368.6 | 3379.2 | 3391.3 | 3392.9 | 3384.6 | 3378.0 |
| 7.5°  | 3365.9 | 3378.0 | 3392.9 | 3394.4 | 3384.2 | 3376.8 |
| 8°    | 3363.1 | 3377.6 | 3392.9 | 3395.2 | 3384.6 | 3376.4 |
| 8.5°  | 3360.0 | 3376.4 | 3392.5 | 3395.2 | 3384.2 | 3375.6 |
| 9°    | 3356.1 | 3375.2 | 3392.9 | 3395.2 | 3382.7 | 3374.9 |
| 9.5°  | 3352.9 | 3376.4 | 3396.0 | 3396.0 | 3381.5 | 3372.9 |
| 10°   | 3351.8 | 3378.8 | 3400.3 | 3399.9 | 3381.5 | 3370.5 |
| 10.5° | 3352.5 | 3380.3 | 3404.2 | 3404.6 | 3383.5 | 3369.0 |
| 11°   | 3351.8 | 3379.5 | 3406.9 | 3407.7 | 3386.2 | 3369.0 |
| 11.5° | 3349.4 | 3377.2 | 3408.1 | 3409.7 | 3386.6 | 3370.5 |
| 12°   | 3346.3 | 3374.5 | 3410.1 | 3410.5 | 3385.0 | 3371.3 |
| 12.5° | 3345.9 | 3373.3 | 3414.8 | 3415.2 | 3383.5 | 3371.3 |
| 13°   | 3345.9 | 3372.5 | 3421.0 | 3421.0 | 3382.7 | 3370.9 |
| 13.5° | 3345.1 | 3370.5 | 3426.5 | 3425.3 | 3382.7 | 3371.7 |
| 14°   | 3342.8 | 3365.9 | 3428.5 | 3428.1 | 3380.3 | 3373.3 |
| 14.5° | 3338.5 | 3358.4 | 3429.6 | 3428.9 | 3375.6 | 3373.7 |
| 15°   | 3334.5 | 3351.0 | 3430.0 | 3429.6 | 3369.4 | 3372.5 |
| 15.5° | 3329.8 | 3343.5 | 3430.0 | 3430.0 | 3363.9 | 3369.4 |
| 16°   | 3325.2 | 3335.3 | 3428.1 | 3429.6 | 3357.6 | 3366.2 |
| 16.5° | 3320.5 | 3325.2 | 3421.8 | 3426.1 | 3351.4 | 3362.7 |
| 17°   | 3311.5 | 3311.1 | 3410.1 | 3417.5 | 3342.8 | 3358.8 |
| 17.5° | 3298.5 | 3294.2 | 3392.9 | 3404.2 | 3331.0 | 3354.5 |
| 18°   | 3282.5 | 3276.2 | 3371.3 | 3386.6 | 3317.3 | 3348.2 |
| 18.5° | 3263.7 | 3259.4 | 3347.5 | 3366.6 | 3301.7 | 3337.7 |
| 19°   | 3244.9 | 3241.8 | 3320.5 | 3343.5 | 3286.0 | 3324.0 |
| 19.5° | 3225.0 | 3223.8 | 3290.3 | 3317.7 | 3270.8 | 3308.7 |
| 20°   | 3203.1 | 3204.6 | 3257.1 | 3287.6 | 3255.1 | 3292.3 |
| 20.5° | 3180.8 | 3185.4 | 3220.7 | 3255.1 | 3238.7 | 3274.3 |
| 21°   | 3156.1 | 3163.9 | 3180.8 | 3217.9 | 3221.8 | 3254.7 |

TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 3081.4 | 3084.1 | 3053.2 | 3095.4 | 3162.4 | 3191.3 |
| 23°   | 3054.4 | 3048.5 | 3006.2 | 3050.0 | 3137.3 | 3167.8 |
| 23.5° | 3026.6 | 3008.6 | 2959.6 | 3003.1 | 3109.1 | 3143.6 |
| 24°   | 2997.6 | 2964.0 | 2911.1 | 2955.3 | 3075.1 | 3118.9 |
| 24.5° | 2969.4 | 2917.0 | 2861.4 | 2906.0 | 3036.0 | 3093.1 |
| 25°   | 2933.0 | 2865.7 | 2809.8 | 2856.3 | 2991.3 | 3065.7 |
| 25.5° | 2896.6 | 2813.3 | 2761.2 | 2806.2 | 2944.0 | 3036.4 |
| 26°   | 2860.6 | 2760.5 | 2712.3 | 2754.2 | 2893.5 | 3005.4 |
| 26.5° | 2823.9 | 2706.8 | 2658.3 | 2702.5 | 2841.5 | 2970.2 |
| 27°   | 2772.6 | 2651.7 | 2605.5 | 2649.7 | 2787.5 | 2931.5 |
| 27.5° | 2717.0 | 2597.3 | 2553.1 | 2595.3 | 2733.1 | 2885.7 |
| 28°   | 2653.2 | 2543.7 | 2498.7 | 2539.7 | 2678.3 | 2836.0 |
| 28.5° | 2589.8 | 2490.0 | 2442.3 | 2486.1 | 2623.5 | 2781.6 |
| 29°   | 2525.3 | 2434.1 | 2384.4 | 2431.7 | 2567.5 | 2722.9 |
| 29.5° | 2461.1 | 2378.1 | 2326.9 | 2375.4 | 2507.7 | 2659.9 |
| 30°   | 2393.4 | 2315.1 | 2271.3 | 2319.4 | 2447.0 | 2594.9 |
| 30.5° | 2324.1 | 2250.2 | 2215.3 | 2261.1 | 2383.2 | 2523.3 |
| 31°   | 2254.5 | 2183.6 | 2159.0 | 2205.6 | 2317.5 | 2450.5 |
| 31.5° | 2184.4 | 2117.1 | 2102.6 | 2149.6 | 2248.2 | 2375.8 |
| 32°   | 2114.8 | 2045.9 | 2044.3 | 2091.7 | 2178.9 | 2304.2 |
| 32.5° | 2044.7 | 1978.2 | 1986.0 | 2029.8 | 2108.5 | 2231.0 |
| 33°   | 1974.7 | 1911.7 | 1923.0 | 1965.3 | 2038.1 | 2160.9 |
| 33.5° | 1908.1 | 1846.3 | 1853.4 | 1898.7 | 1967.2 | 2090.9 |
| 34°   | 1840.8 | 1779.8 | 1780.2 | 1829.1 | 1903.8 | 2022.4 |
| 34.5° | 1772.7 | 1711.7 | 1704.6 | 1757.1 | 1836.9 | 1953.5 |
| 35°   | 1701.9 | 1638.1 | 1634.6 | 1684.3 | 1769.2 | 1883.9 |
| 35.5° | 1630.7 | 1565.7 | 1563.8 | 1612.3 | 1698.4 | 1817.7 |
| 36°   | 1561.8 | 1494.1 | 1496.5 | 1542.2 | 1628.3 | 1745.3 |
| 36.5° | 1494.1 | 1421.3 | 1426.4 | 1473.8 | 1552.4 | 1672.9 |
| 37°   | 1430.3 | 1356.4 | 1357.5 | 1407.2 | 1483.2 | 1603.3 |
| 37.5° | 1368.5 | 1291.4 | 1289.0 | 1338.7 | 1415.5 | 1535.2 |
| 38°   | 1304.3 | 1226.0 | 1220.2 | 1270.3 | 1350.9 | 1469.8 |
| 38.5° | 1237.4 | 1161.1 | 1151.7 | 1201.8 | 1285.9 | 1409.2 |
| 39°   | 1167.7 | 1096.1 | 1082.8 | 1133.3 | 1221.0 | 1343.4 |
| 39.5° | 1102.0 | 1030.4 | 1017.5 | 1064.8 | 1156.0 | 1277.3 |
| 40°   | 1037.0 | 964.6  | 952.1  | 1001.0 | 1091.0 | 1210.8 |
| 40.5° | 976.8  | 904.0  | 886.8  | 937.2  | 1025.3 | 1144.6 |
| 41°   | 916.1  | 844.5  | 827.3  | 874.2  | 964.2  | 1078.5 |
| 41.5° | 857.0  | 785.0  | 765.1  | 812.4  | 901.2  | 1015.1 |
| 42°   | 795.2  | 727.9  | 709.9  | 752.9  | 841.4  | 953.3  |
| 42.5° | 734.9  | 671.9  | 655.1  | 695.4  | 781.9  | 892.6  |
| 43°   | 675.4  | 616.3  | 603.8  | 641.0  | 725.1  | 829.2  |
| 43.5° | 618.3  | 561.6  | 554.9  | 589.3  | 667.6  | 767.0  |



TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°  | 292.5° | 315°  | 337.5° | 360°  |
|-------|--------|-------|--------|-------|--------|-------|
| 45°   | 459.4  | 417.2 | 423.0  | 449.2 | 502.5  | 587.8 |
| 45.5° | 416.4  | 374.5 | 384.3  | 408.6 | 453.2  | 531.4 |
| 46°   | 373.7  | 334.6 | 347.9  | 369.8 | 406.2  | 477.4 |
| 46.5° | 331.1  | 298.2 | 312.7  | 333.4 | 361.2  | 425.8 |
| 47°   | 288.4  | 265.3 | 281.0  | 299.8 | 320.5  | 377.2 |
| 47.5° | 245.8  | 235.2 | 250.5  | 266.9 | 283.7  | 332.2 |
| 48°   | 219.1  | 208.2 | 222.3  | 237.1 | 250.8  | 291.9 |
| 48.5° | 196.1  | 184.3 | 195.7  | 209.4 | 221.9  | 257.5 |
| 49°   | 175.3  | 162.8 | 170.2  | 183.5 | 196.4  | 227.8 |
| 49.5° | 155.4  | 142.1 | 146.7  | 159.7 | 173.0  | 201.9 |
| 50°   | 136.6  | 122.9 | 127.2  | 136.2 | 151.8  | 179.2 |
| 50.5° | 117.4  | 104.1 | 107.6  | 117.0 | 131.9  | 157.7 |
| 51°   | 99.0   | 84.9  | 87.7   | 97.8  | 114.3  | 137.4 |
| 51.5° | 82.2   | 66.1  | 68.1   | 78.7  | 96.3   | 119.4 |
| 52°   | 66.5   | 47.0  | 48.5   | 59.9  | 78.7   | 101.4 |
| 52.5° | 51.3   | 27.0  | 29.0   | 40.7  | 60.7   | 83.4  |
| 53°   | 36.0   | 12.9  | 14.1   | 22.3  | 40.3   | 65.4  |
| 53.5° | 20.3   | 10.2  | 11.3   | 9.8   | 22.7   | 47.4  |
| 54°   | 5.5    | 7.4   | 8.2    | 8.2   | 10.6   | 27.8  |
| 54.5° | 3.9    | 5.1   | 5.5    | 6.3   | 8.6    | 14.1  |
| 55°   | 3.1    | 2.7   | 2.7    | 4.7   | 6.7    | 11.3  |
| 55.5° | 2.7    | 2.3   | 2.3    | 2.7   | 5.1    | 8.6   |
| 56°   | 2.3    | 2.0   | 2.3    | 2.7   | 3.1    | 5.9   |
| 56.5° | 2.0    | 2.0   | 2.0    | 2.3   | 2.7    | 3.5   |
| 57°   | 2.0    | 1.6   | 2.0    | 2.0   | 2.3    | 3.1   |
| 57.5° | 1.6    | 1.6   | 1.6    | 2.0   | 2.3    | 2.7   |
| 58°   | 1.6    | 1.6   | 1.6    | 2.0   | 2.0    | 2.3   |
| 58.5° | 1.6    | 1.2   | 1.6    | 1.6   | 2.0    | 2.3   |
| 59°   | 1.2    | 1.2   | 1.2    | 1.6   | 2.0    | 2.0   |
| 59.5° | 1.2    | 1.2   | 1.2    | 1.6   | 1.6    | 2.0   |
| 60°   | 1.2    | 1.2   | 1.2    | 1.2   | 1.6    | 1.6   |
| 60.5° | 1.2    | 1.2   | 1.2    | 1.2   | 1.6    | 1.6   |
| 61°   | 1.2    | 0.8   | 1.2    | 1.2   | 1.2    | 1.6   |
| 61.5° | 0.8    | 0.8   | 0.8    | 1.2   | 1.2    | 1.2   |
| 62°   | 0.8    | 0.8   | 0.8    | 1.2   | 1.2    | 1.2   |
| 62.5° | 0.8    | 0.8   | 0.8    | 0.8   | 1.2    | 1.2   |
| 63°   | 0.8    | 0.8   | 0.8    | 0.8   | 1.2    | 1.2   |
| 63.5° | 0.8    | 0.8   | 0.8    | 0.8   | 0.8    | 1.2   |
| 64°   | 0.8    | 0.8   | 0.8    | 0.8   | 0.8    | 0.8   |
| 64.5° | 0.8    | 0.8   | 0.8    | 0.8   | 0.8    | 0.8   |
| 65°   | 0.8    | 0.4   | 0.8    | 0.8   | 0.8    | 0.8   |
| 65.5° | 0.4    | 0.4   | 0.4    | 0.8   | 0.8    | 0.8   |
| 66°   | 0.4    | 0.4   | 0.4    | 0.8   | 0.8    | 0.8   |



TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-------|--------|------|--------|------|--------|------|
| 67.5° | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.8  |
| 68°   | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.8  |
| 68.5° | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 69°   | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 69.5° | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 70°   | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 70.5° | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 71°   | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 71.5° | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 72°   | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 72.5° | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 73°   | 0.4    | 0.4  | 0.4    | 0.4  | 0.4    | 0.4  |
| 73.5° | 0.0    | 0.0  | 0.4    | 0.4  | 0.4    | 0.4  |
| 74°   | 0.0    | 0.0  | 0.0    | 0.4  | 0.4    | 0.4  |
| 74.5° | 0.0    | 0.0  | 0.0    | 0.4  | 0.4    | 0.4  |
| 75°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.4    | 0.4  |
| 75.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.4  |
| 76°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 76.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 77°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 77.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 78°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 78.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 79°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 79.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 80°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 80.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 81°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 81.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 82°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 82.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 83°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 83.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 84°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 84.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 85°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 85.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 86°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 86.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 87.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88°   | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |
| 88.5° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |



TEST NUMBER: P776511

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-3000K

**CANDELA DISTRIBUTION (continued):**

|     | 247.5° | 270° | 292.5° | 315° | 337.5° | 360° |
|-----|--------|------|--------|------|--------|------|
| 90° | 0.0    | 0.0  | 0.0    | 0.0  | 0.0    | 0.0  |



Report Generated By 670245859 / DESKTOP-T8S5UU9



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





— 0°-180°    - - 45°-225°    - - - - 90°-270°    - · - · 135°-315°

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





|       |        |        |        |        |        |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 21.5° | 3234.4 | 3353.3 | 3489.5 | 3525.5 | 3595.6 | 3590.5 | 3577.2 | 3497.7 | 3453.5 | 3322.8 | 3206.6 |
| 22°   | 3213.6 | 3337.3 | 3466.4 | 3512.2 | 3583.0 | 3585.4 | 3558.4 | 3483.6 | 3426.9 | 3293.5 | 3185.1 |



|       |       |       |       |        |        |        |        |       |       |       |       |
|-------|-------|-------|-------|--------|--------|--------|--------|-------|-------|-------|-------|
| 44°   | 705.6 | 812.4 | 917.7 | 1030.8 | 1129.4 | 1150.1 | 1084.4 | 986.5 | 852.7 | 723.2 | 625.7 |
| 44.5° | 646.1 | 746.3 | 853.9 | 965.8  | 1065.6 | 1080.9 | 1017.5 | 922.0 | 791.7 | 663.3 | 568.2 |



|       |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 66.5° | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 |
| 67°   | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 | 0.4 | 0.4 |



|       |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 89°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 89.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report





|       |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|
| 21.5° | 3132.2 | 3140.1 | 3140.8 | 3178.4 | 3203.4 | 3234.4 |
| 22°   | 3106.4 | 3113.8 | 3097.0 | 3137.7 | 3183.9 | 3213.6 |

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



|       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|
| 44°   | 564.3 | 510.3 | 508.3 | 540.4 | 609.7 | 705.6 |
| 44.5° | 511.5 | 462.9 | 464.5 | 493.5 | 555.3 | 646.1 |

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



|       |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|
| 66.5° | 0.4 | 0.4 | 0.4 | 0.8 | 0.8 | 0.8 |
| 67°   | 0.4 | 0.4 | 0.4 | 0.4 | 0.8 | 0.8 |

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



|       |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|
| 89°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 89.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

Scaled Data Report



(END OF REPORT)