

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: P776514

Luminaire Tested: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

Issue Date: 2/7/2024

**Test Information**

Test Method: LM-79-2019  
Report Number: P776514  
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-5000K  
Description: 8 INCH SQUARE MEDIUM SPECULAR CLEAR TRIM  
Light Source: SELECTABLE LUMENS AND CCT ARRAY 90CRI / 5000K CCT  
Ballast/Driver: -

**Summary**

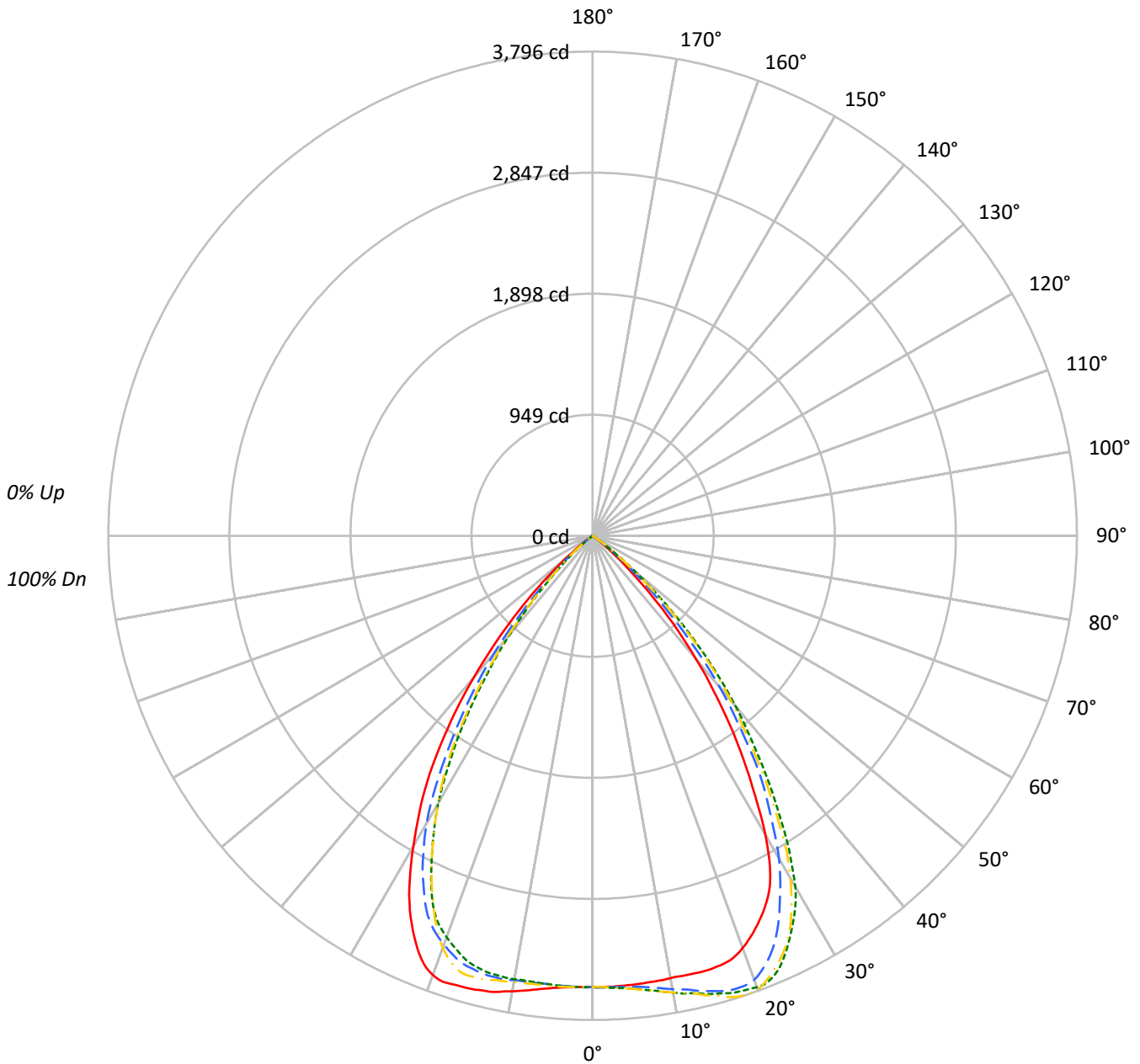
Lumens per Lamp: N/A  
Luminaire Lumens: 4756.9 lumens  
Efficiency: N/A  
Efficacy: 123.6 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.07  
Luminous Opening: Rectangular (W 0.67' x L: 0.67' x H: 0')  
CIE Type: Direct

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: P776514  
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

### Luminous Intensity Polar Plot





TEST NUMBER: P776514

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

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|-----|
| RF  | 20  |     |     |     | 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 | 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°  | 84855 | 84855 | 84855 | 84855 |
| 5°  | 85071 | 85810 | 85663 | 85083 |
| 10° | 85738 | 88565 | 88285 | 85945 |
| 15° | 87463 | 92284 | 91331 | 86905 |
| 20° | 87767 | 96113 | 93472 | 85429 |
| 25° | 84737 | 94992 | 88772 | 79210 |
| 30° | 75062 | 88023 | 77845 | 66966 |
| 35° | 57611 | 71817 | 63667 | 50097 |
| 40° | 39593 | 54581 | 45340 | 31546 |
| 45° | 20825 | 35450 | 25952 | 14778 |
| 50° | 6983  | 16015 | 9975  | 4790  |
| 55° | 497   | 3470  | 1095  | 121   |
| 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: 35823 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 339.8  | 7.1       |
| 10°-20°   | 1021.7 | 21.5      |
| 20°-30°   | 1489.9 | 31.3      |
| 30°-40°   | 1283.8 | 27.0      |
| 40°-50°   | 564.5  | 11.9      |
| 50°-60°   | 56.2   | 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°    | 2851.4 | 59.9      |
| 0°-40°    | 4135.2 | 86.9      |
| 0°-60°    | 4755.9 | 100.0     |
| 0°-90°    | 4756.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 4756.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 90°  | 180° | 270° | 360° | Flux |
|-----|------|------|------|------|------|------|
| 0°  | 3539 | 3539 | 3539 | 3539 | 3539 |      |
| 5°  | 3534 | 3565 | 3559 | 3535 | 3534 | 337  |
| 15° | 3523 | 3718 | 3679 | 3501 | 3523 | 994  |
| 25° | 3203 | 3590 | 3355 | 2994 | 3203 | 1454 |
| 35° | 1968 | 2453 | 2175 | 1711 | 1968 | 1221 |
| 45° | 614  | 1045 | 765  | 436  | 614  | 491  |
| 55° | 12   | 83   | 26   | 3    | 12   | 40   |
| 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: P776514

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   | 202.5° | 225°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 |
| 0.5°  | 3539.7 | 3541.3 | 3542.1 | 3539.3 | 3540.5 | 3538.4 | 3536.8 | 3537.6 | 3538.8 | 3540.1 | 3540.1 |
| 1°    | 3539.7 | 3541.7 | 3542.5 | 3541.3 | 3541.7 | 3539.7 | 3537.2 | 3538.0 | 3539.3 | 3540.1 | 3540.1 |
| 1.5°  | 3539.7 | 3541.3 | 3542.1 | 3542.5 | 3544.2 | 3541.7 | 3538.4 | 3539.3 | 3539.3 | 3539.7 | 3539.3 |
| 2°    | 3538.8 | 3540.1 | 3541.7 | 3543.7 | 3546.6 | 3544.6 | 3541.7 | 3541.3 | 3540.5 | 3539.7 | 3538.8 |
| 2.5°  | 3538.8 | 3540.1 | 3542.1 | 3543.7 | 3548.7 | 3548.7 | 3544.6 | 3543.7 | 3542.9 | 3540.1 | 3537.6 |
| 3°    | 3537.6 | 3539.7 | 3542.5 | 3545.0 | 3550.3 | 3549.9 | 3548.7 | 3548.2 | 3544.6 | 3540.5 | 3536.8 |
| 3.5°  | 3536.8 | 3538.8 | 3543.7 | 3547.4 | 3552.3 | 3552.7 | 3551.9 | 3551.5 | 3547.0 | 3541.7 | 3536.0 |
| 4°    | 3535.6 | 3537.6 | 3545.0 | 3550.3 | 3556.0 | 3556.8 | 3556.0 | 3556.4 | 3550.7 | 3542.5 | 3535.2 |
| 4.5°  | 3535.2 | 3537.6 | 3547.0 | 3554.0 | 3560.1 | 3561.7 | 3560.9 | 3560.5 | 3554.8 | 3544.2 | 3533.5 |
| 5°    | 3534.3 | 3537.6 | 3549.5 | 3558.9 | 3565.0 | 3566.2 | 3566.6 | 3566.6 | 3558.9 | 3545.8 | 3533.5 |
| 5.5°  | 3533.5 | 3539.3 | 3552.7 | 3564.6 | 3569.9 | 3571.5 | 3572.0 | 3573.6 | 3564.2 | 3547.8 | 3533.1 |
| 6°    | 3532.3 | 3540.1 | 3556.4 | 3569.9 | 3575.6 | 3577.3 | 3578.5 | 3580.1 | 3569.5 | 3550.7 | 3533.1 |
| 6.5°  | 3530.7 | 3541.3 | 3561.3 | 3576.5 | 3582.2 | 3583.0 | 3585.5 | 3587.1 | 3576.0 | 3554.8 | 3533.5 |
| 7°    | 3529.0 | 3542.5 | 3566.6 | 3583.8 | 3589.1 | 3589.1 | 3592.0 | 3594.9 | 3583.0 | 3558.5 | 3533.5 |
| 7.5°  | 3527.8 | 3544.2 | 3572.8 | 3592.4 | 3596.1 | 3596.1 | 3598.1 | 3601.8 | 3589.9 | 3563.0 | 3533.5 |
| 8°    | 3527.4 | 3546.6 | 3578.9 | 3601.0 | 3603.4 | 3603.4 | 3606.3 | 3610.8 | 3597.7 | 3567.1 | 3533.9 |
| 8.5°  | 3526.6 | 3550.7 | 3585.9 | 3610.0 | 3611.2 | 3612.0 | 3614.1 | 3619.0 | 3605.5 | 3571.1 | 3534.8 |
| 9°    | 3525.8 | 3555.2 | 3594.0 | 3620.2 | 3620.2 | 3620.2 | 3621.4 | 3628.0 | 3612.8 | 3575.6 | 3535.2 |
| 9.5°  | 3523.7 | 3558.9 | 3603.0 | 3629.6 | 3628.0 | 3628.8 | 3628.8 | 3636.1 | 3619.8 | 3579.7 | 3535.2 |
| 10°   | 3521.3 | 3562.6 | 3610.4 | 3639.8 | 3637.4 | 3638.2 | 3637.0 | 3643.1 | 3625.9 | 3583.8 | 3537.2 |
| 10.5° | 3519.6 | 3565.4 | 3616.9 | 3648.8 | 3646.4 | 3647.2 | 3644.7 | 3649.6 | 3632.1 | 3589.5 | 3542.1 |
| 11°   | 3519.6 | 3569.1 | 3623.1 | 3655.8 | 3655.0 | 3655.4 | 3651.7 | 3655.8 | 3638.6 | 3597.7 | 3546.2 |
| 11.5° | 3521.3 | 3574.4 | 3629.6 | 3662.3 | 3661.5 | 3662.3 | 3658.2 | 3662.7 | 3648.4 | 3605.1 | 3547.4 |
| 12°   | 3522.1 | 3581.4 | 3638.6 | 3669.7 | 3666.4 | 3669.7 | 3666.4 | 3672.9 | 3656.2 | 3612.0 | 3546.2 |
| 12.5° | 3522.1 | 3588.3 | 3649.6 | 3677.8 | 3672.9 | 3677.4 | 3676.2 | 3682.8 | 3662.3 | 3613.3 | 3544.2 |
| 13°   | 3521.7 | 3592.4 | 3660.7 | 3688.1 | 3681.5 | 3686.8 | 3688.5 | 3690.5 | 3665.2 | 3615.3 | 3543.7 |
| 13.5° | 3522.5 | 3594.9 | 3670.9 | 3697.5 | 3692.6 | 3697.5 | 3702.0 | 3695.0 | 3667.2 | 3619.4 | 3542.5 |
| 14°   | 3524.1 | 3596.9 | 3678.3 | 3704.0 | 3703.2 | 3709.3 | 3713.0 | 3697.9 | 3670.9 | 3623.5 | 3539.7 |
| 14.5° | 3524.5 | 3599.8 | 3686.4 | 3707.7 | 3711.4 | 3718.3 | 3722.0 | 3702.4 | 3675.4 | 3626.3 | 3534.8 |
| 15°   | 3523.3 | 3601.8 | 3695.8 | 3711.0 | 3717.5 | 3724.5 | 3731.8 | 3709.3 | 3679.1 | 3628.4 | 3529.4 |
| 15.5° | 3520.0 | 3601.8 | 3705.2 | 3717.5 | 3724.0 | 3728.9 | 3744.9 | 3715.0 | 3679.9 | 3628.8 | 3523.3 |
| 16°   | 3516.8 | 3598.5 | 3713.8 | 3723.2 | 3732.2 | 3735.5 | 3759.6 | 3718.7 | 3680.3 | 3630.4 | 3518.0 |
| 16.5° | 3513.1 | 3593.6 | 3719.5 | 3725.7 | 3740.8 | 3743.3 | 3772.7 | 3720.0 | 3681.1 | 3631.6 | 3511.9 |
| 17°   | 3509.0 | 3587.9 | 3723.2 | 3725.7 | 3747.3 | 3748.6 | 3782.5 | 3718.3 | 3682.8 | 3632.9 | 3503.3 |
| 17.5° | 3504.5 | 3583.0 | 3725.3 | 3724.5 | 3751.4 | 3751.0 | 3788.6 | 3716.7 | 3684.4 | 3631.2 | 3492.2 |
| 18°   | 3498.0 | 3577.7 | 3725.3 | 3722.8 | 3754.3 | 3750.6 | 3791.9 | 3715.5 | 3686.8 | 3623.9 | 3477.1 |
| 18.5° | 3486.9 | 3572.4 | 3723.6 | 3720.8 | 3757.2 | 3750.6 | 3794.0 | 3713.4 | 3687.7 | 3612.0 | 3460.3 |
| 19°   | 3472.6 | 3565.4 | 3720.8 | 3719.1 | 3760.4 | 3752.3 | 3795.6 | 3711.0 | 3684.4 | 3593.6 | 3444.4 |
| 19.5° | 3456.7 | 3556.4 | 3715.5 | 3717.1 | 3763.3 | 3755.1 | 3793.1 | 3704.4 | 3675.8 | 3574.0 | 3427.6 |
| 20°   | 3439.5 | 3544.6 | 3704.8 | 3713.8 | 3766.6 | 3758.0 | 3786.6 | 3693.8 | 3663.1 | 3552.3 | 3409.7 |
| 20.5° | 3420.7 | 3531.5 | 3688.9 | 3707.7 | 3767.8 | 3758.8 | 3773.5 | 3681.5 | 3649.2 | 3528.6 | 3390.8 |
| 21°   | 3400.2 | 3517.6 | 3668.4 | 3697.5 | 3764.9 | 3755.5 | 3755.5 | 3667.2 | 3630.4 | 3500.8 | 3371.2 |



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CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    | 112.5° | 135°   | 157.5° | 180°   | 202.5° | 225°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 22.5° | 3334.0 | 3466.5 | 3595.3 | 3655.0 | 3727.3 | 3739.6 | 3696.7 | 3622.7 | 3549.1 | 3408.0 | 3301.7 |
| 23°   | 3309.5 | 3443.2 | 3567.5 | 3639.8 | 3707.7 | 3729.4 | 3674.2 | 3603.8 | 3515.1 | 3372.9 | 3273.5 |
| 23.5° | 3284.1 | 3416.2 | 3536.0 | 3620.6 | 3684.0 | 3716.3 | 3650.0 | 3583.0 | 3478.7 | 3336.1 | 3242.0 |
| 24°   | 3258.4 | 3385.5 | 3501.6 | 3600.2 | 3655.4 | 3698.3 | 3624.7 | 3558.5 | 3438.3 | 3296.8 | 3205.6 |
| 24.5° | 3231.4 | 3350.4 | 3462.8 | 3576.9 | 3623.1 | 3676.6 | 3598.1 | 3530.3 | 3397.8 | 3255.1 | 3165.6 |
| 25°   | 3202.8 | 3312.8 | 3421.9 | 3548.7 | 3590.4 | 3649.2 | 3568.3 | 3496.7 | 3355.3 | 3209.7 | 3119.8 |
| 25.5° | 3172.1 | 3272.7 | 3376.9 | 3516.4 | 3555.6 | 3617.7 | 3536.0 | 3459.5 | 3313.2 | 3164.8 | 3074.4 |
| 26°   | 3139.8 | 3230.2 | 3330.3 | 3478.7 | 3519.6 | 3581.8 | 3499.2 | 3417.8 | 3266.2 | 3114.1 | 3028.6 |
| 26.5° | 3103.0 | 3185.6 | 3281.3 | 3437.0 | 3481.2 | 3540.9 | 3460.3 | 3371.6 | 3217.9 | 3063.0 | 2982.8 |
| 27°   | 3062.6 | 3136.1 | 3231.0 | 3389.2 | 3443.6 | 3495.9 | 3416.2 | 3320.5 | 3168.4 | 3012.3 | 2937.0 |
| 27.5° | 3014.7 | 3084.2 | 3181.5 | 3335.7 | 3405.6 | 3449.7 | 3370.4 | 3267.8 | 3110.0 | 2961.6 | 2882.7 |
| 28°   | 2962.8 | 3029.8 | 3131.6 | 3276.4 | 3365.9 | 3395.8 | 3319.3 | 3212.6 | 3051.5 | 2910.9 | 2829.1 |
| 28.5° | 2906.0 | 2973.8 | 3083.0 | 3213.8 | 3325.0 | 3340.2 | 3265.3 | 3160.3 | 2993.1 | 2856.9 | 2774.7 |
| 29°   | 2844.6 | 2918.6 | 3031.1 | 3151.3 | 3281.7 | 3282.5 | 3211.8 | 3100.6 | 2934.6 | 2801.3 | 2717.9 |
| 29.5° | 2778.8 | 2861.4 | 2977.9 | 3088.7 | 3233.4 | 3222.4 | 3158.6 | 3040.5 | 2875.7 | 2745.3 | 2660.7 |
| 30°   | 2711.0 | 2805.0 | 2921.9 | 3024.9 | 3179.1 | 3157.8 | 3098.1 | 2980.4 | 2811.5 | 2685.2 | 2601.4 |
| 30.5° | 2636.1 | 2749.4 | 2860.6 | 2962.8 | 3110.8 | 3093.2 | 3037.6 | 2920.7 | 2748.6 | 2625.1 | 2539.7 |
| 31°   | 2560.1 | 2695.0 | 2795.2 | 2900.2 | 3042.5 | 3028.6 | 2977.5 | 2852.0 | 2688.1 | 2562.1 | 2470.6 |
| 31.5° | 2482.0 | 2637.4 | 2728.5 | 2838.5 | 2974.2 | 2964.0 | 2917.0 | 2782.5 | 2625.5 | 2498.8 | 2397.8 |
| 32°   | 2407.2 | 2573.2 | 2662.3 | 2778.4 | 2906.0 | 2899.0 | 2841.4 | 2711.0 | 2564.2 | 2435.0 | 2323.8 |
| 32.5° | 2330.7 | 2505.3 | 2597.7 | 2715.9 | 2832.0 | 2837.3 | 2763.7 | 2641.0 | 2504.1 | 2372.0 | 2251.4 |
| 33°   | 2257.6 | 2433.8 | 2536.0 | 2650.9 | 2753.9 | 2770.6 | 2683.6 | 2572.0 | 2443.6 | 2307.4 | 2175.8 |
| 33.5° | 2184.4 | 2357.7 | 2475.1 | 2585.0 | 2677.0 | 2704.0 | 2604.7 | 2499.2 | 2379.0 | 2240.4 | 2103.4 |
| 34°   | 2112.8 | 2278.4 | 2415.4 | 2518.4 | 2600.6 | 2628.8 | 2530.3 | 2426.0 | 2314.0 | 2170.5 | 2029.4 |
| 34.5° | 2040.9 | 2203.2 | 2351.6 | 2448.5 | 2526.2 | 2549.1 | 2455.4 | 2354.1 | 2246.5 | 2095.7 | 1958.7 |
| 35°   | 1968.1 | 2128.4 | 2283.7 | 2377.8 | 2453.4 | 2465.3 | 2381.0 | 2285.4 | 2175.0 | 2020.4 | 1885.5 |
| 35.5° | 1899.0 | 2055.6 | 2212.2 | 2307.4 | 2380.6 | 2382.7 | 2302.9 | 2214.2 | 2100.2 | 1945.2 | 1816.0 |
| 36°   | 1823.4 | 1984.5 | 2135.7 | 2235.9 | 2307.0 | 2298.0 | 2226.5 | 2145.1 | 2026.2 | 1871.2 | 1743.7 |
| 36.5° | 1747.8 | 1912.1 | 2055.2 | 2163.1 | 2231.4 | 2215.9 | 2147.2 | 2073.6 | 1953.8 | 1802.1 | 1672.5 |
| 37°   | 1675.0 | 1838.1 | 1978.7 | 2088.7 | 2157.4 | 2134.9 | 2072.0 | 2004.1 | 1883.5 | 1733.9 | 1600.6 |
| 37.5° | 1603.8 | 1767.4 | 1906.0 | 2019.2 | 2084.6 | 2061.3 | 2000.4 | 1936.2 | 1815.6 | 1664.8 | 1529.8 |
| 38°   | 1535.6 | 1697.5 | 1835.2 | 1948.1 | 2013.1 | 1993.1 | 1934.2 | 1871.2 | 1744.1 | 1594.9 | 1461.2 |
| 38.5° | 1472.2 | 1626.3 | 1767.4 | 1879.4 | 1943.6 | 1928.0 | 1870.8 | 1801.3 | 1670.9 | 1524.9 | 1394.1 |
| 39°   | 1403.5 | 1554.0 | 1697.5 | 1809.1 | 1877.4 | 1865.9 | 1809.5 | 1731.0 | 1596.9 | 1455.4 | 1328.7 |
| 39.5° | 1334.4 | 1482.8 | 1625.9 | 1733.0 | 1811.5 | 1803.8 | 1746.9 | 1655.8 | 1521.7 | 1382.7 | 1262.1 |
| 40°   | 1264.9 | 1412.9 | 1551.9 | 1650.9 | 1743.7 | 1743.3 | 1683.6 | 1583.0 | 1448.5 | 1309.5 | 1194.2 |
| 40.5° | 1195.8 | 1343.4 | 1479.2 | 1571.5 | 1674.6 | 1678.7 | 1617.7 | 1509.8 | 1372.9 | 1234.7 | 1125.1 |
| 41°   | 1126.7 | 1273.5 | 1403.1 | 1497.1 | 1602.6 | 1613.2 | 1551.1 | 1440.3 | 1302.1 | 1161.1 | 1055.6 |
| 41.5° | 1060.5 | 1203.6 | 1327.1 | 1426.8 | 1531.1 | 1548.7 | 1484.1 | 1371.2 | 1232.6 | 1089.5 | 986.1  |
| 42°   | 995.9  | 1134.1 | 1250.6 | 1356.9 | 1457.9 | 1482.0 | 1415.0 | 1304.2 | 1163.1 | 1018.0 | 916.2  |
| 42.5° | 932.5  | 1063.4 | 1174.6 | 1287.0 | 1386.3 | 1415.0 | 1345.9 | 1235.5 | 1094.4 | 949.7  | 847.9  |
| 43°   | 866.3  | 992.2  | 1098.5 | 1217.5 | 1317.3 | 1344.6 | 1274.7 | 1167.2 | 1024.9 | 883.9  | 781.7  |
| 43.5° | 801.3  | 919.5  | 1028.2 | 1147.2 | 1246.9 | 1273.1 | 1203.2 | 1098.1 | 956.3  | 819.3  | 716.3  |



TEST NUMBER: P776514

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°    | 112.5° | 135°  | 157.5° | 180°  | 202.5° | 225°  |
|-------|-------|-------|-------|-------|--------|--------|-------|--------|-------|--------|-------|
| 45°   | 614.1 | 714.6 | 827.1 | 944.4 | 1045.4 | 1056.4 | 995.5 | 900.2  | 765.3 | 634.5  | 536.8 |
| 45.5° | 555.2 | 652.9 | 767.0 | 879.4 | 977.1  | 984.9  | 926.4 | 836.9  | 705.2 | 578.1  | 484.1 |
| 46°   | 498.8 | 595.3 | 706.5 | 815.6 | 908.4  | 914.1  | 859.0 | 773.9  | 649.6 | 524.9  | 435.0 |
| 46.5° | 444.8 | 539.2 | 648.0 | 751.4 | 843.0  | 845.1  | 793.1 | 711.0  | 593.2 | 473.8  | 395.3 |
| 47°   | 394.1 | 486.5 | 591.6 | 690.1 | 778.4  | 776.4  | 728.1 | 650.0  | 540.5 | 428.5  | 355.7 |
| 47.5° | 347.1 | 437.4 | 537.2 | 629.6 | 715.9  | 711.4  | 663.5 | 590.8  | 488.6 | 389.6  | 315.6 |
| 48°   | 305.0 | 392.5 | 484.1 | 573.2 | 654.1  | 649.6  | 603.8 | 534.8  | 439.9 | 350.4  | 276.0 |
| 48.5° | 269.0 | 350.4 | 434.6 | 520.0 | 592.0  | 589.5  | 545.4 | 480.8  | 396.6 | 311.5  | 245.3 |
| 49°   | 237.9 | 311.5 | 389.2 | 468.9 | 532.7  | 531.5  | 489.8 | 435.0  | 353.6 | 272.7  | 217.5 |
| 49.5° | 211.0 | 276.0 | 346.3 | 418.6 | 475.9  | 477.1  | 443.2 | 389.2  | 310.3 | 240.0  | 192.6 |
| 50°   | 187.2 | 243.7 | 306.2 | 369.2 | 429.3  | 430.9  | 396.2 | 343.4  | 267.4 | 211.0  | 169.3 |
| 50.5° | 164.8 | 213.4 | 269.4 | 323.0 | 382.7  | 385.1  | 349.6 | 297.6  | 232.2 | 183.2  | 146.0 |
| 51°   | 143.5 | 185.2 | 234.7 | 280.0 | 336.5  | 338.9  | 302.9 | 251.8  | 200.7 | 157.4  | 124.3 |
| 51.5° | 124.7 | 161.1 | 203.6 | 241.6 | 289.9  | 293.1  | 255.9 | 217.5  | 172.5 | 132.9  | 105.1 |
| 52°   | 105.9 | 137.4 | 174.6 | 207.7 | 244.1  | 246.9  | 220.0 | 185.6  | 146.0 | 110.4  | 85.9  |
| 52.5° | 87.1  | 117.7 | 148.0 | 176.2 | 209.3  | 209.7  | 186.8 | 157.4  | 121.0 | 90.4   | 69.5  |
| 53°   | 68.3  | 98.1  | 126.7 | 148.4 | 177.4  | 177.4  | 157.4 | 131.2  | 98.9  | 73.2   | 53.6  |
| 53.5° | 49.5  | 78.1  | 105.9 | 126.7 | 149.2  | 148.4  | 130.4 | 107.5  | 80.5  | 56.4   | 37.2  |
| 54°   | 29.0  | 58.5  | 85.0  | 105.5 | 122.6  | 121.4  | 106.7 | 87.5   | 62.6  | 39.7   | 21.3  |
| 54.5° | 14.7  | 37.6  | 64.2  | 83.8  | 98.9   | 98.9   | 86.3  | 71.1   | 44.2  | 22.9   | 5.7   |
| 55°   | 11.9  | 20.0  | 43.3  | 62.6  | 83.0   | 80.5   | 69.9  | 54.4   | 26.2  | 6.5    | 4.1   |
| 55.5° | 9.0   | 16.8  | 23.7  | 40.9  | 67.5   | 62.6   | 53.6  | 38.0   | 8.6   | 4.5    | 3.3   |
| 56°   | 6.1   | 13.1  | 10.6  | 21.3  | 51.5   | 44.6   | 37.6  | 21.7   | 4.9   | 3.7    | 2.9   |
| 56.5° | 3.7   | 9.8   | 8.2   | 9.0   | 36.0   | 26.2   | 21.3  | 5.3    | 4.1   | 3.3    | 2.5   |
| 57°   | 3.3   | 6.5   | 6.5   | 7.0   | 20.0   | 8.2    | 5.3   | 4.1    | 3.3   | 2.9    | 2.0   |
| 57.5° | 2.9   | 3.3   | 4.9   | 5.7   | 4.5    | 4.5    | 4.1   | 3.7    | 2.9   | 2.5    | 2.0   |
| 58°   | 2.5   | 2.9   | 2.9   | 4.1   | 3.7    | 3.7    | 3.3   | 3.3    | 2.5   | 2.0    | 1.6   |
| 58.5° | 2.5   | 2.5   | 2.5   | 2.9   | 2.9    | 2.9    | 2.9   | 2.9    | 2.5   | 2.0    | 1.6   |
| 59°   | 2.0   | 2.0   | 2.5   | 2.5   | 2.5    | 2.5    | 2.5   | 2.5    | 2.0   | 1.6    | 1.6   |
| 59.5° | 2.0   | 2.0   | 2.0   | 2.0   | 2.5    | 2.5    | 2.5   | 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: P776514

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**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: P776514  
CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**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: P776514

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 0°    | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 | 3538.8 |
| 0.5°  | 3538.0 | 3540.5 | 3538.0 | 3536.8 | 3537.6 | 3539.7 |
| 1°    | 3538.0 | 3540.1 | 3538.8 | 3537.2 | 3538.8 | 3539.7 |
| 1.5°  | 3537.6 | 3540.1 | 3539.3 | 3538.0 | 3538.8 | 3539.7 |
| 2°    | 3536.8 | 3539.7 | 3539.7 | 3539.3 | 3539.3 | 3538.8 |
| 2.5°  | 3535.2 | 3538.8 | 3540.5 | 3540.5 | 3539.7 | 3538.8 |
| 3°    | 3533.9 | 3538.0 | 3541.3 | 3542.5 | 3540.5 | 3537.6 |
| 3.5°  | 3532.3 | 3537.6 | 3542.5 | 3542.9 | 3540.5 | 3536.8 |
| 4°    | 3530.7 | 3537.2 | 3542.9 | 3544.6 | 3540.5 | 3535.6 |
| 4.5°  | 3528.6 | 3535.6 | 3543.7 | 3545.0 | 3540.1 | 3535.2 |
| 5°    | 3527.0 | 3534.8 | 3543.7 | 3545.0 | 3539.7 | 3534.3 |
| 5.5°  | 3525.8 | 3533.5 | 3542.9 | 3545.0 | 3538.0 | 3533.5 |
| 6°    | 3524.1 | 3532.3 | 3542.5 | 3544.2 | 3537.6 | 3532.3 |
| 6.5°  | 3521.3 | 3531.1 | 3542.5 | 3544.2 | 3536.8 | 3530.7 |
| 7°    | 3519.2 | 3530.3 | 3542.9 | 3544.6 | 3536.0 | 3529.0 |
| 7.5°  | 3516.4 | 3529.0 | 3544.6 | 3546.2 | 3535.6 | 3527.8 |
| 8°    | 3513.5 | 3528.6 | 3544.6 | 3547.0 | 3536.0 | 3527.4 |
| 8.5°  | 3510.2 | 3527.4 | 3544.2 | 3547.0 | 3535.6 | 3526.6 |
| 9°    | 3506.1 | 3526.2 | 3544.6 | 3547.0 | 3533.9 | 3525.8 |
| 9.5°  | 3502.9 | 3527.4 | 3547.8 | 3547.8 | 3532.7 | 3523.7 |
| 10°   | 3501.6 | 3529.8 | 3552.3 | 3551.9 | 3532.7 | 3521.3 |
| 10.5° | 3502.5 | 3531.5 | 3556.4 | 3556.8 | 3534.8 | 3519.6 |
| 11°   | 3501.6 | 3530.7 | 3559.3 | 3560.1 | 3537.6 | 3519.6 |
| 11.5° | 3499.2 | 3528.2 | 3560.5 | 3562.1 | 3538.0 | 3521.3 |
| 12°   | 3495.9 | 3525.4 | 3562.6 | 3563.0 | 3536.4 | 3522.1 |
| 12.5° | 3495.5 | 3524.1 | 3567.5 | 3567.9 | 3534.8 | 3522.1 |
| 13°   | 3495.5 | 3523.3 | 3574.0 | 3574.0 | 3533.9 | 3521.7 |
| 13.5° | 3494.7 | 3521.3 | 3579.7 | 3578.5 | 3533.9 | 3522.5 |
| 14°   | 3492.2 | 3516.4 | 3581.8 | 3581.4 | 3531.5 | 3524.1 |
| 14.5° | 3487.7 | 3508.6 | 3583.0 | 3582.2 | 3526.6 | 3524.5 |
| 15°   | 3483.7 | 3500.8 | 3583.4 | 3583.0 | 3520.0 | 3523.3 |
| 15.5° | 3478.7 | 3493.1 | 3583.4 | 3583.4 | 3514.3 | 3520.0 |
| 16°   | 3473.8 | 3484.5 | 3581.4 | 3583.0 | 3507.8 | 3516.8 |
| 16.5° | 3468.9 | 3473.8 | 3574.8 | 3579.3 | 3501.2 | 3513.1 |
| 17°   | 3459.5 | 3459.1 | 3562.6 | 3570.3 | 3492.2 | 3509.0 |
| 17.5° | 3446.0 | 3441.5 | 3544.6 | 3556.4 | 3480.0 | 3504.5 |
| 18°   | 3429.3 | 3422.7 | 3522.1 | 3538.0 | 3465.7 | 3498.0 |
| 18.5° | 3409.7 | 3405.2 | 3497.1 | 3517.2 | 3449.3 | 3486.9 |
| 19°   | 3390.0 | 3386.8 | 3468.9 | 3493.1 | 3433.0 | 3472.6 |
| 19.5° | 3369.2 | 3368.0 | 3437.5 | 3466.1 | 3417.0 | 3456.7 |
| 20°   | 3346.3 | 3347.9 | 3402.7 | 3434.6 | 3400.7 | 3439.5 |
| 20.5° | 3323.0 | 3327.9 | 3364.7 | 3400.7 | 3383.5 | 3420.7 |
| 21°   | 3297.2 | 3305.4 | 3323.0 | 3361.8 | 3365.9 | 3400.2 |

TEST NUMBER: P776514

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°   | 292.5° | 315°   | 337.5° | 360°   |
|-------|--------|--------|--------|--------|--------|--------|
| 22.5° | 3219.1 | 3222.0 | 3189.7 | 3233.9 | 3303.8 | 3334.0 |
| 23°   | 3190.9 | 3184.8 | 3140.6 | 3186.4 | 3277.6 | 3309.5 |
| 23.5° | 3161.9 | 3143.1 | 3092.0 | 3137.4 | 3248.2 | 3284.1 |
| 24°   | 3131.6 | 3096.5 | 3041.3 | 3087.5 | 3212.6 | 3258.4 |
| 24.5° | 3102.2 | 3047.4 | 2989.4 | 3036.0 | 3171.7 | 3231.4 |
| 25°   | 3064.2 | 2993.9 | 2935.4 | 2984.1 | 3125.1 | 3202.8 |
| 25.5° | 3026.2 | 2939.1 | 2884.7 | 2931.7 | 3075.6 | 3172.1 |
| 26°   | 2988.6 | 2883.9 | 2833.6 | 2877.4 | 3022.9 | 3139.8 |
| 26.5° | 2950.1 | 2827.9 | 2777.2 | 2823.4 | 2968.5 | 3103.0 |
| 27°   | 2896.6 | 2770.2 | 2722.0 | 2768.2 | 2912.1 | 3062.6 |
| 27.5° | 2838.5 | 2713.4 | 2667.2 | 2711.4 | 2855.3 | 3014.7 |
| 28°   | 2771.9 | 2657.4 | 2610.4 | 2653.3 | 2798.0 | 2962.8 |
| 28.5° | 2705.6 | 2601.4 | 2551.5 | 2597.3 | 2740.8 | 2906.0 |
| 29°   | 2638.2 | 2542.9 | 2491.0 | 2540.5 | 2682.3 | 2844.6 |
| 29.5° | 2571.1 | 2484.5 | 2430.9 | 2481.6 | 2619.8 | 2778.8 |
| 30°   | 2500.4 | 2418.6 | 2372.9 | 2423.1 | 2556.4 | 2711.0 |
| 30.5° | 2428.0 | 2350.8 | 2314.4 | 2362.2 | 2489.8 | 2636.1 |
| 31°   | 2355.3 | 2281.3 | 2255.5 | 2304.2 | 2421.1 | 2560.1 |
| 31.5° | 2282.1 | 2211.8 | 2196.7 | 2245.7 | 2348.7 | 2482.0 |
| 32°   | 2209.3 | 2137.4 | 2135.7 | 2185.2 | 2276.4 | 2407.2 |
| 32.5° | 2136.1 | 2066.6 | 2074.8 | 2120.6 | 2202.8 | 2330.7 |
| 33°   | 2063.0 | 1997.1 | 2009.0 | 2053.2 | 2129.2 | 2257.6 |
| 33.5° | 1993.5 | 1928.9 | 1936.2 | 1983.6 | 2055.2 | 2184.4 |
| 34°   | 1923.1 | 1859.4 | 1859.8 | 1910.9 | 1989.0 | 2112.8 |
| 34.5° | 1852.0 | 1788.2 | 1780.9 | 1835.7 | 1919.1 | 2040.9 |
| 35°   | 1778.0 | 1711.4 | 1707.7 | 1759.6 | 1848.3 | 1968.1 |
| 35.5° | 1703.6 | 1635.7 | 1633.7 | 1684.4 | 1774.3 | 1899.0 |
| 36°   | 1631.6 | 1560.9 | 1563.4 | 1611.2 | 1701.1 | 1823.4 |
| 36.5° | 1560.9 | 1484.9 | 1490.2 | 1539.7 | 1621.8 | 1747.8 |
| 37°   | 1494.3 | 1417.0 | 1418.2 | 1470.2 | 1549.5 | 1675.0 |
| 37.5° | 1429.7 | 1349.1 | 1346.7 | 1398.6 | 1478.7 | 1603.8 |
| 38°   | 1362.6 | 1280.9 | 1274.7 | 1327.1 | 1411.3 | 1535.6 |
| 38.5° | 1292.7 | 1213.0 | 1203.2 | 1255.5 | 1343.4 | 1472.2 |
| 39°   | 1220.0 | 1145.1 | 1131.2 | 1184.0 | 1275.6 | 1403.5 |
| 39.5° | 1151.3 | 1076.5 | 1063.0 | 1112.4 | 1207.7 | 1334.4 |
| 40°   | 1083.4 | 1007.8 | 994.7  | 1045.8 | 1139.8 | 1264.9 |
| 40.5° | 1020.4 | 944.4  | 926.4  | 979.2  | 1071.1 | 1195.8 |
| 41°   | 957.1  | 882.3  | 864.3  | 913.3  | 1007.4 | 1126.7 |
| 41.5° | 895.3  | 820.1  | 799.3  | 848.7  | 941.5  | 1060.5 |
| 42°   | 830.7  | 760.4  | 741.6  | 786.6  | 879.0  | 995.9  |
| 42.5° | 767.8  | 702.0  | 684.4  | 726.5  | 816.8  | 932.5  |
| 43°   | 705.6  | 643.9  | 630.8  | 669.7  | 757.6  | 866.3  |
| 43.5° | 646.0  | 586.7  | 579.7  | 615.7  | 697.5  | 801.3  |



TEST NUMBER: P776514

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**CANDELA DISTRIBUTION (continued):**

|       | 247.5° | 270°  | 292.5° | 315°  | 337.5° | 360°  |
|-------|--------|-------|--------|-------|--------|-------|
| 45°   | 480.0  | 435.8 | 441.9  | 469.3 | 524.9  | 614.1 |
| 45.5° | 435.0  | 391.3 | 401.5  | 426.8 | 473.4  | 555.2 |
| 46°   | 390.4  | 349.6 | 363.5  | 386.3 | 424.4  | 498.8 |
| 46.5° | 345.9  | 311.5 | 326.7  | 348.3 | 377.4  | 444.8 |
| 47°   | 301.3  | 277.2 | 293.5  | 313.2 | 334.8  | 394.1 |
| 47.5° | 256.7  | 245.7 | 261.7  | 278.8 | 296.4  | 347.1 |
| 48°   | 228.9  | 217.5 | 232.2  | 247.8 | 262.1  | 305.0 |
| 48.5° | 204.8  | 192.6 | 204.4  | 218.7 | 231.8  | 269.0 |
| 49°   | 183.2  | 170.1 | 177.8  | 191.7 | 205.2  | 237.9 |
| 49.5° | 162.3  | 148.4 | 153.3  | 166.8 | 180.7  | 211.0 |
| 50°   | 142.7  | 128.4 | 132.9  | 142.3 | 158.6  | 187.2 |
| 50.5° | 122.6  | 108.7 | 112.4  | 122.2 | 137.8  | 164.8 |
| 51°   | 103.4  | 88.7  | 91.6   | 102.2 | 119.4  | 143.5 |
| 51.5° | 85.9   | 69.1  | 71.1   | 82.2  | 100.6  | 124.7 |
| 52°   | 69.5   | 49.1  | 50.7   | 62.6  | 82.2   | 105.9 |
| 52.5° | 53.6   | 28.2  | 30.3   | 42.5  | 63.4   | 87.1  |
| 53°   | 37.6   | 13.5  | 14.7   | 23.3  | 42.1   | 68.3  |
| 53.5° | 21.3   | 10.6  | 11.9   | 10.2  | 23.7   | 49.5  |
| 54°   | 5.7    | 7.8   | 8.6    | 8.6   | 11.0   | 29.0  |
| 54.5° | 4.1    | 5.3   | 5.7    | 6.5   | 9.0    | 14.7  |
| 55°   | 3.3    | 2.9   | 2.9    | 4.9   | 7.0    | 11.9  |
| 55.5° | 2.9    | 2.5   | 2.5    | 2.9   | 5.3    | 9.0   |
| 56°   | 2.5    | 2.0   | 2.5    | 2.9   | 3.3    | 6.1   |
| 56.5° | 2.0    | 2.0   | 2.0    | 2.5   | 2.9    | 3.7   |
| 57°   | 2.0    | 1.6   | 2.0    | 2.0   | 2.5    | 3.3   |
| 57.5° | 1.6    | 1.6   | 1.6    | 2.0   | 2.5    | 2.9   |
| 58°   | 1.6    | 1.6   | 1.6    | 2.0   | 2.0    | 2.5   |
| 58.5° | 1.6    | 1.2   | 1.6    | 1.6   | 2.0    | 2.5   |
| 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: P776514

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**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: P776514

CATALOG NUMBER: HCDJBL3040CSD-HCD8TSQC-4000lm-5000K

**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



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Scaled Data Report





|       |        |        |        |        |        |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 21.5° | 3379.0 | 3503.3 | 3645.5 | 3683.2 | 3756.3 | 3751.0 | 3737.1 | 3654.1 | 3607.9 | 3471.4 | 3350.0 |
| 22°   | 3357.3 | 3486.5 | 3621.4 | 3669.3 | 3743.3 | 3745.7 | 3717.5 | 3639.4 | 3580.1 | 3440.7 | 3327.5 |



|       |       |       |       |        |        |        |        |        |       |       |       |
|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|-------|-------|
| 44°   | 737.1 | 848.7 | 958.7 | 1076.9 | 1179.9 | 1201.6 | 1132.9 | 1030.7 | 890.8 | 755.5 | 653.7 |
| 44.5° | 675.0 | 779.6 | 892.1 | 1009.0 | 1113.2 | 1129.2 | 1063.0 | 963.2  | 827.1 | 693.0 | 593.6 |



|       |     |     |     |     |     |     |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 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 |



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|       |        |        |        |        |        |        |
|-------|--------|--------|--------|--------|--------|--------|
| 21.5° | 3272.3 | 3280.5 | 3281.3 | 3320.5 | 3346.7 | 3379.0 |
| 22°   | 3245.3 | 3253.1 | 3235.5 | 3278.0 | 3326.3 | 3357.3 |



|       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|
| 44°   | 589.5 | 533.1 | 531.1 | 564.6 | 637.0 | 737.1 |
| 44.5° | 534.3 | 483.6 | 485.3 | 515.5 | 580.1 | 675.0 |



|       |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|
| 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 |

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|       |     |     |     |     |     |     |
|-------|-----|-----|-----|-----|-----|-----|
| 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 |

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(END OF REPORT)