

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : SP-00424\_52 ~ C1320YKSSXT-160LXXK-XWEX-MWI.IES****DESCRIPTION INFORMATION (From Photometric File)**

IESNA:LM-63-2002

[TEST] SP-00424\_52\_M-160L

[TESTLAB] Photopia 2017.2.1 see: www.ltiopics.com/ies

[ISSUE DATE]

[TEST DATE] 8/16/2017

[UPDATE] 11/08/2017

[MANUFAC] Spectrum Lighting

[LUMCAT] C1320YKSSXT-160L-xxK-XW-EX-MWI

[LUMINAIRE] Nom. 13" Diam. x 26.5" H Cylinder Downlight, Yoke Mounted, Xtra Wide Beam

[OTHER] Integral Straight 3" Matte White (interior) Deep Snoot for Additional Cutoff

[OTHER] Nom. 13" Diam. Cylinder / Nom. 13" Diam Snoot Opening

[OTHER] Matte Black regressed faceplate w/ (4) openings for LEDXT optics

[OTHER] Four (4) LEDXT Reflector modules per Luminaire

[OTHER] 49.3 Degree Beam Angle, 86.6 Degree Field Angle

[LAMPCAT] LED 4000lm

[LAMP] N/A, 19mm

[OTHER] Total Luminaire Watts is approximate

[OTHER] LEDXT lumen output is the same for all available CCT's

[OTHER] This report prepared by Spectrum Lighting, scaled from 200L

**CHARACTERISTICS**

|                                 |                    |
|---------------------------------|--------------------|
| Lumens Per Lamp                 | N.A. (absolute)    |
| Total Lamp Lumens               | N.A. (absolute)    |
| Luminaire Lumens                | 12455              |
| Total Luminaire Efficiency      | N.A.               |
| Luminaire Efficacy Rating (LER) | 78                 |
| Total Luminaire Watts           | 159.6              |
| Ballast Factor                  | 1.00               |
| CIE Type                        | Direct             |
| Spacing Criterion (0-180)       | 0.84               |
| Spacing Criterion (90-270)      | 0.82               |
| Spacing Criterion (Diagonal)    | 0.76               |
| Basic Luminous Shape            | Circular           |
| Luminous Length (0-180)         | 1.25 ft (Diameter) |
| Luminous Width (90-270)         | 1.25 ft (Diameter) |
| Luminous Height                 | 0.00 ft            |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : SP-00424\_52 ~ C1320YKSSXT-160LXXK-XWEX-MWI.IES****LUMINANCE DATA (cd/sq.m)**

| Angle In<br>Degrees | Average<br>0-Deg | Average<br>45-Deg | Average<br>90-Deg |
|---------------------|------------------|-------------------|-------------------|
| 45                  | 16804            | 12385             | 17028             |
| 55                  | 8684             | 8669              | 9325              |
| 65                  | 8903             | 8956              | 9295              |
| 75                  | 8475             | 8724              | 8534              |
| 85                  | 5011             | 5665              | 5331              |

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## CANDELA TABULATION

|    | <u>0</u>  | <u>5</u>  | <u>10</u> | <u>15</u> | <u>20</u> | <u>25</u> | <u>30</u> | <u>35</u> | <u>40</u> | <u>45</u> |
|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0  | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 |
| 5  | 14623.532 | 14349.882 | 14296.667 | 14600.962 | 14432.201 | 14182.198 | 14585.964 | 14330.369 | 14624.570 | 14364.919 |
| 10 | 13942.412 | 14014.392 | 13806.586 | 14086.987 | 13969.409 | 13791.408 | 13782.953 | 13800.416 | 13792.294 | 13862.872 |
| 15 | 12803.159 | 12913.946 | 12865.653 | 12722.932 | 12799.502 | 12497.423 | 12548.566 | 12712.616 | 12724.158 | 12750.321 |
| 20 | 9854.652  | 9782.018  | 9783.920  | 9996.902  | 9845.551  | 9731.506  | 9867.989  | 9813.881  | 9819.640  | 9698.535  |
| 25 | 7931.793  | 7763.294  | 7565.650  | 7613.098  | 7179.772  | 6971.503  | 6580.712  | 6248.781  | 6157.828  | 6156.358  |
| 30 | 5896.668  | 5613.562  | 5129.147  | 4894.998  | 4575.702  | 4568.525  | 4455.605  | 4419.299  | 4284.780  | 4408.658  |
| 35 | 3010.985  | 3012.486  | 3374.163  | 3504.555  | 3580.531  | 3495.661  | 3401.814  | 3339.344  | 3350.755  | 3353.350  |
| 40 | 2052.635  | 1915.090  | 1877.037  | 1865.825  | 1926.340  | 2053.136  | 2305.434  | 2531.991  | 2576.505  | 2645.266  |
| 45 | 1355.970  | 1369.599  | 1324.823  | 1295.001  | 1298.744  | 1247.161  | 1149.333  | 1060.798  | 1010.209  | 999.344   |
| 50 | 697.297   | 707.468   | 685.246   | 658.234   | 626.626   | 611.803   | 622.514   | 574.612   | 583.645   | 600.384   |
| 55 | 568.383   | 574.520   | 576.391   | 558.142   | 556.202   | 568.114   | 538.584   | 558.519   | 547.655   | 567.405   |
| 60 | 538.322   | 538.553   | 547.362   | 529.860   | 520.635   | 525.810   | 517.078   | 511.141   | 504.034   | 492.292   |
| 65 | 429.383   | 455.155   | 467.852   | 438.561   | 439.993   | 451.320   | 446.792   | 436.413   | 449.387   | 431.947   |
| 70 | 331.616   | 337.837   | 354.131   | 345.460   | 336.890   | 332.062   | 343.605   | 349.164   | 343.320   | 355.956   |
| 75 | 250.304   | 238.916   | 240.140   | 240.810   | 240.209   | 253.253   | 259.359   | 244.452   | 250.689   | 257.680   |
| 80 | 149.264   | 147.732   | 148.510   | 150.350   | 159.390   | 155.024   | 153.053   | 151.698   | 140.055   | 154.123   |
| 85 | 49.842    | 49.711    | 57.557    | 57.065    | 49.965    | 53.938    | 49.750    | 53.600    | 49.988    | 56.341    |
| 90 | 1.409     | 0.000     | 0.631     | 0.354     | 1.016     | 0.262     | 1.578     | 0.346     | 0.608     | 1.055     |

## Vert. Angles Horizontal Angles

|    | <u>50</u> | <u>55</u> | <u>60</u> | <u>65</u> | <u>70</u> | <u>75</u> | <u>80</u> | <u>85</u> | <u>90</u> |
|----|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0  | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 | 14137.069 |
| 5  | 14696.390 | 14694.695 | 14543.891 | 14479.349 | 14822.784 | 14761.332 | 14442.304 | 14797.112 | 14983.145 |
| 10 | 13749.850 | 13917.150 | 14057.282 | 13880.067 | 13854.841 | 13748.357 | 13938.609 | 13762.541 | 13772.358 |
| 15 | 12714.879 | 13029.700 | 12848.173 | 12785.919 | 12698.709 | 12776.787 | 12735.168 | 12803.661 | 12918.682 |
| 20 | 10024.483 | 9888.317  | 9754.098  | 9799.212  | 9720.264  | 9976.435  | 9826.162  | 9856.446  | 9666.564  |
| 25 | 6155.919  | 6220.814  | 6552.246  | 6879.080  | 7192.624  | 7569.292  | 7857.565  | 7807.569  | 7858.042  |
| 30 | 4381.862  | 4428.493  | 4406.179  | 4514.333  | 4757.791  | 4934.114  | 5213.485  | 5664.466  | 5795.374  |
| 35 | 3314.519  | 3430.019  | 3328.910  | 3541.399  | 3522.080  | 3364.392  | 3257.593  | 3062.082  | 3076.427  |
| 40 | 2626.739  | 2493.429  | 2277.421  | 2039.445  | 1884.744  | 1825.524  | 1937.197  | 1861.098  | 1943.927  |
| 45 | 1014.567  | 1077.992  | 1133.840  | 1221.951  | 1289.981  | 1314.790  | 1304.803  | 1384.976  | 1374.011  |
| 50 | 584.076   | 590.444   | 580.087   | 562.138   | 637.144   | 654.885   | 673.103   | 705.297   | 740.709   |
| 55 | 545.799   | 561.145   | 555.570   | 575.290   | 550.635   | 574.751   | 557.973   | 581.027   | 610.387   |
| 60 | 501.786   | 492.076   | 503.711   | 529.652   | 510.833   | 522.838   | 532.917   | 531.816   | 530.199   |
| 65 | 434.465   | 423.508   | 438.792   | 438.623   | 448.694   | 450.250   | 457.434   | 457.003   | 448.271   |
| 70 | 351.751   | 347.609   | 346.646   | 348.410   | 356.495   | 345.607   | 350.827   | 339.824   | 343.959   |
| 75 | 250.181   | 261.438   | 237.945   | 254.893   | 245.468   | 251.813   | 244.436   | 252.745   | 252.059   |
| 80 | 152.560   | 152.206   | 146.516   | 146.862   | 144.167   | 147.193   | 144.167   | 145.984   | 150.604   |
| 85 | 52.291    | 50.227    | 50.035    | 57.334    | 52.560    | 49.996    | 52.037    | 58.859    | 53.022    |
| 90 | 0.316     | 0.000     | 0.662     | 0.169     | 0.000     | 0.601     | 0.885     | 0.000     | 0.608     |

**IES INDOOR REPORT****PHOTOMETRIC FILENAME : SP-00424\_52 ~ C1320YKSSXT-160LXXK-XWEX-MWI.IES****ZONAL LUMEN SUMMARY**

| Zone    | Lumens   | %Lamp | %Fixt  |
|---------|----------|-------|--------|
| 0-20    | 4801.74  | N.A.  | 38.60  |
| 0-30    | 8065.63  | N.A.  | 64.80  |
| 0-40    | 10183.26 | N.A.  | 81.80  |
| 0-60    | 11688.85 | N.A.  | 93.80  |
| 0-80    | 12385.22 | N.A.  | 99.40  |
| 0-90    | 12454.84 | N.A.  | 100.00 |
| 10-90   | 11095.44 | N.A.  | 89.10  |
| 20-40   | 5381.52  | N.A.  | 43.20  |
| 20-50   | 6377.03  | N.A.  | 51.20  |
| 40-70   | 1940.09  | N.A.  | 15.60  |
| 60-80   | 696.37   | N.A.  | 5.60   |
| 70-80   | 261.87   | N.A.  | 2.10   |
| 80-90   | 69.62    | N.A.  | 0.60   |
| 90-110  | 0.00     | N.A.  | 0.00   |
| 90-120  | 0.00     | N.A.  | 0.00   |
| 90-130  | 0.00     | N.A.  | 0.00   |
| 90-150  | 0.00     | N.A.  | 0.00   |
| 90-180  | 0.00     | N.A.  | 0.00   |
| 110-180 | 0.00     | N.A.  | 0.00   |
| 0-180   | 12454.84 | N.A.  | 100.00 |

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

| Zone    | Lumens  |
|---------|---------|
| 0-10    | 1359.4  |
| 10-20   | 3442.34 |
| 20-30   | 3263.89 |
| 30-40   | 2117.63 |
| 40-50   | 995.51  |
| 50-60   | 510.08  |
| 60-70   | 434.50  |
| 70-80   | 261.87  |
| 80-90   | 69.62   |
| 90-100  | 0.00    |
| 100-110 | 0.00    |
| 110-120 | 0.00    |
| 120-130 | 0.00    |
| 130-140 | 0.00    |
| 140-150 | 0.00    |
| 150-160 | 0.00    |
| 160-170 | 0.00    |
| 170-180 | 0.00    |

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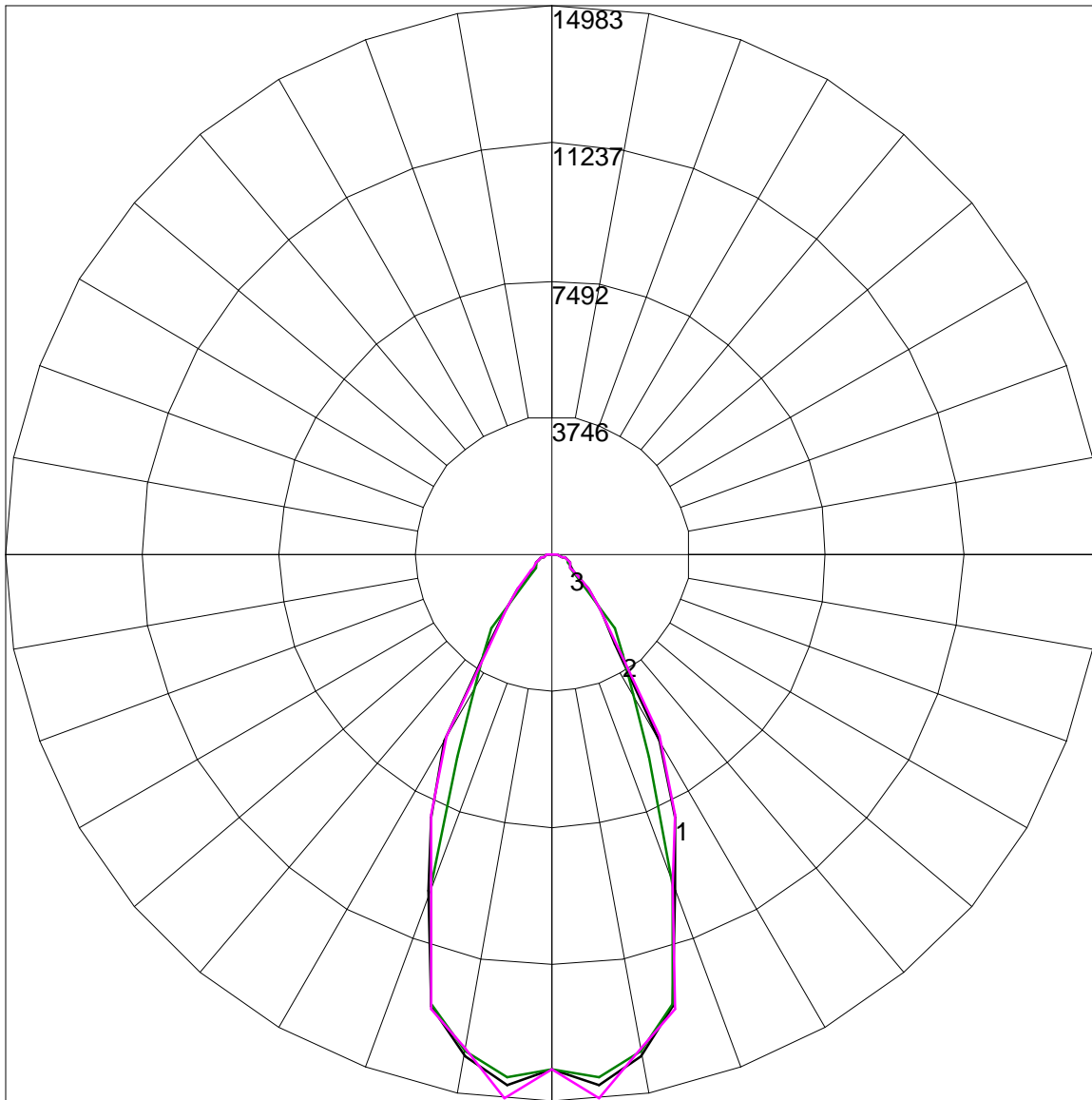
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## COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

| 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  | 0   |
| 0  | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1  | 112 | 109 | 106 | 104 | 110 | 107 | 104 | 102 | 103 | 101 | 99  | 99  | 98  | 96  | 96  | 94  | 93  | 91  |
| 2  | 106 | 100 | 96  | 92  | 104 | 99  | 94  | 91  | 95  | 92  | 89  | 92  | 89  | 87  | 90  | 87  | 85  | 83  |
| 3  | 100 | 93  | 87  | 83  | 98  | 91  | 86  | 82  | 89  | 84  | 81  | 86  | 83  | 79  | 84  | 81  | 78  | 77  |
| 4  | 95  | 86  | 80  | 75  | 93  | 85  | 79  | 75  | 83  | 78  | 74  | 81  | 76  | 73  | 79  | 75  | 72  | 71  |
| 5  | 89  | 80  | 74  | 69  | 88  | 79  | 73  | 69  | 77  | 72  | 68  | 76  | 71  | 68  | 74  | 70  | 67  | 65  |
| 6  | 85  | 75  | 69  | 64  | 83  | 74  | 68  | 64  | 73  | 67  | 63  | 71  | 67  | 63  | 70  | 66  | 62  | 61  |
| 7  | 80  | 71  | 64  | 60  | 79  | 70  | 64  | 59  | 69  | 63  | 59  | 67  | 62  | 59  | 66  | 62  | 58  | 57  |
| 8  | 77  | 66  | 60  | 56  | 75  | 66  | 60  | 56  | 65  | 59  | 55  | 64  | 59  | 55  | 63  | 58  | 55  | 53  |
| 9  | 73  | 63  | 56  | 52  | 72  | 62  | 56  | 52  | 61  | 56  | 52  | 60  | 55  | 52  | 59  | 55  | 52  | 50  |
| 10 | 70  | 59  | 53  | 49  | 68  | 59  | 53  | 49  | 58  | 53  | 49  | 57  | 52  | 49  | 57  | 52  | 49  | 47  |

POLAR GRAPH



Maximum Candela = 14983.145 Located At Horizontal Angle = 90, Vertical Angle = 5  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180)  
# 2 - Vertical Plane Through Horizontal Angles (45 - 225)  
# 3 - Vertical Plane Through Horizontal Angles (90 - 270)