

IES INDOOR REPORT
PHOTOMETRIC FILENAME : COBRA I-60.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST]
 [TESTLAB]LiLEDs
 [ISSUEDATE]08/06/11 21:04:32
 [MANUFAC]TECHNICAL CONSUMER PRODUCTS, INC.
 [LUMCAT]TGPCOBRAI60H
 [LUMINAIRE]TCP COBRA 60 LED STREET LIGHT
 [LAMP](60) 1W WHITE LIGHT LEDS
 [OTHER]EVERFINE GO-2000A_V1 SYSTEM
 [OTHER]TOTAL INPUT WATTS = 99.8 AT 120.0 VOLTS
 [_LEDDRIVER]MEAN WELL CLG-100-48
 [_ABSOLUTELUMENS]6681

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6681
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	67
Total Luminaire Watts	99.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criteria (0-180)	2.30
Spacing Criteria (90-270)	2.20
Spacing Criteria (Diagonal)	1.86
Basic Luminous Shape	Circular
Luminous Length (0-180)	0.14 m (Diameter)
Luminous Width (90-270)	0.14 m (Diameter)
Luminous Height	0.00 m



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	145372	145763	154418
55	261529	190392	203766
65	184183	758707	414831
75	22158	136140	746268
85	6318	21345	40470

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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	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60
5	1072.33	1078.19	1081.81	1087.88	1092.66	1099.05	1105.16	1113.54	1119.73	1126.18
10	1073.39	1084.40	1095.82	1110.32	1126.13	1146.72	1166.13	1187.60	1208.88	1231.00
15	1098.18	1108.51	1121.03	1140.55	1164.23	1190.79	1221.94	1260.71	1300.35	1340.70
20	1049.65	1062.74	1079.88	1115.65	1149.93	1201.05	1251.95	1310.80	1365.15	1426.96
25	1040.70	1047.97	1075.05	1114.18	1164.03	1218.09	1266.81	1315.47	1360.56	1417.09
30	1088.79	1096.83	1131.33	1185.37	1249.90	1306.66	1348.75	1370.22	1380.65	1392.95
35	1243.02	1243.99	1274.03	1318.71	1371.31	1414.29	1437.55	1447.07	1442.42	1429.26
40	1378.38	1381.09	1403.57	1445.62	1468.47	1483.32	1481.73	1500.66	1528.49	1571.80
45	1583.06	1564.11	1552.81	1528.07	1499.63	1477.15	1460.48	1467.58	1498.02	1587.31
50	1897.88	1868.32	1838.32	1759.39	1668.86	1567.52	1505.69	1497.37	1532.29	1609.60
55	2310.16	2271.16	2270.29	2214.98	2147.26	2007.45	1874.08	1696.25	1640.23	1681.78
60	2848.04	2891.35	2946.64	3052.92	3196.13	3400.43	3668.13	3836.31	3726.77	2969.17
65	1198.75	1437.02	1263.82	1673.00	1924.00	2395.99	2717.93	3408.92	4304.88	4938.02
70	191.69	205.93	191.63	200.87	194.10	241.18	511.99	939.83	1390.64	2472.52
75	88.32	90.41	90.80	94.42	98.30	107.60	119.74	178.54	329.57	542.64
80	47.97	50.12	51.10	54.01	55.81	58.39	63.24	79.21	96.58	130.00
85	8.48	10.29	9.13	8.16	8.82	10.38	12.76	18.45	22.61	28.65
90	0.61	0.60	0.62	0.62	0.63	0.62	0.64	0.63	0.66	0.66
95	0.67	0.67	0.66	0.68	0.66	0.68	0.67	0.68	0.69	0.71
100	0.83	0.83	0.82	0.82	0.80	0.80	0.79	0.81	0.82	0.86
105	1.04	1.04	1.01	1.01	0.99	1.00	0.99	1.02	1.03	1.08
110	1.28	1.28	1.25	1.25	1.23	1.25	1.27	1.31	1.38	1.49
115	1.56	1.56	1.53	1.55	1.55	1.61	1.66	1.75	1.88	2.05
120	1.93	1.94	1.93	1.95	2.00	2.09	2.19	2.33	2.49	2.68
125	2.32	2.34	2.34	2.39	2.46	2.60	2.74	2.91	3.10	3.33
130	2.76	2.77	2.79	2.84	2.93	3.08	3.24	3.43	3.64	3.90
135	3.17	3.18	3.21	3.28	3.36	3.51	3.67	3.89	4.11	4.35
140	3.55	3.58	3.59	3.65	3.71	3.85	4.00	4.19	4.39	4.60
145	3.86	3.89	3.87	3.92	3.96	4.08	4.19	4.39	4.58	4.84
150	4.22	4.24	4.22	4.26	4.31	4.42	4.53	4.70	4.88	5.09
155	4.64	4.66	4.65	4.68	4.70	4.79	4.88	5.01	5.12	5.31
160	5.04	5.09	5.06	5.10	5.11	5.19	5.23	5.34	5.43	5.55
165	5.32	5.37	5.35	5.37	5.37	5.43	5.45	5.54	5.61	5.70
170	5.56	5.62	5.59	5.62	5.62	5.67	5.67	5.75	5.78	5.85
175	5.74	5.79	5.77	5.79	5.78	5.84	5.83	5.89	5.91	5.97
180	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85

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>	<u>95</u>
0	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60
5	1132.23	1135.49	1138.88	1139.90	1143.36	1137.61	1136.98	1131.95	1138.86	1137.40
10	1251.62	1268.46	1284.81	1294.90	1303.83	1302.50	1303.70	1298.46	1314.03	1311.86
15	1385.31	1438.92	1501.47	1532.86	1551.13	1550.21	1553.18	1538.71	1557.55	1533.95
20	1492.38	1578.21	1663.30	1731.91	1769.72	1781.05	1771.18	1736.79	1694.92	1664.96
25	1467.98	1533.13	1595.18	1660.66	1701.45	1737.27	1740.30	1728.64	1711.86	1716.87
30	1406.13	1446.40	1488.67	1549.49	1601.03	1652.77	1678.24	1701.44	1702.48	1731.91
35	1413.99	1402.92	1422.48	1465.04	1518.73	1578.86	1622.00	1661.45	1682.33	1737.77
40	1567.10	1517.11	1507.53	1524.68	1558.43	1593.89	1616.91	1637.47	1668.20	1751.05
45	1606.64	1595.44	1603.60	1640.69	1668.98	1687.31	1671.89	1652.64	1681.56	1784.95
50	1674.76	1723.15	1744.41	1750.69	1754.40	1784.28	1764.34	1694.70	1700.81	1759.72
55	1757.22	1833.35	1864.38	1863.52	1855.19	1888.19	1896.85	1822.18	1799.92	1794.74
60	2199.41	2048.83	2000.53	1981.00	1981.54	2037.84	2155.34	2112.00	2060.15	1962.38

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CANDELA TABULATION - (Cont.)

65	5056.42	4262.35	2866.28	2275.12	2208.55	2290.45	2625.41	2728.87	2699.91	2388.60
70	3139.87	3983.39	3915.29	3356.92	2889.08	2815.41	3517.36	3817.70	3823.72	2874.93
75	655.36	1180.80	1274.20	1455.10	1819.47	2256.23	3117.52	3449.63	2974.55	1786.16
80	145.13	151.55	118.15	136.04	149.48	258.15	365.05	475.79	373.15	251.00
85	31.19	28.62	27.75	33.60	40.55	55.31	66.30	73.46	54.32	39.97
90	0.68	0.68	0.70	0.86	1.30	2.01	2.58	3.13	3.04	3.32
95	0.70	0.73	0.74	0.92	1.28	1.88	2.64	3.32	3.15	3.59
100	0.86	0.91	1.04	1.40	2.05	2.92	3.88	4.68	4.10	4.67
105	1.13	1.27	1.57	2.08	2.93	3.95	4.96	5.77	4.54	5.11
110	1.65	1.87	2.25	2.84	3.70	4.67	5.53	6.13	4.82	5.28
115	2.26	2.55	2.98	3.63	4.46	5.32	6.00	6.42	5.46	5.99
120	2.94	3.25	3.72	4.31	4.97	5.56	6.03	6.39	6.13	6.46
125	3.59	3.93	4.31	4.74	5.14	5.49	5.81	6.21	6.63	6.83
130	4.16	4.46	4.74	5.05	5.32	5.62	5.96	6.38	6.81	6.99
135	4.57	4.82	5.01	5.28	5.51	5.79	6.07	6.36	6.44	6.59
140	4.83	5.07	5.31	5.56	5.76	5.97	6.19	6.37	6.27	6.41
145	5.06	5.31	5.51	5.71	5.88	6.08	6.24	6.35	6.22	6.34
150	5.27	5.47	5.64	5.83	5.99	6.15	6.28	6.37	6.14	6.22
155	5.44	5.61	5.74	5.92	6.05	6.18	6.28	6.33	6.05	6.08
160	5.65	5.80	5.89	5.98	6.07	6.20	6.25	6.28	5.94	5.96
165	5.75	5.84	5.89	5.95	6.00	6.08	6.11	6.12	5.90	5.88
170	5.87	5.94	5.96	5.98	6.03	6.08	6.09	6.14	5.96	5.93
175	5.97	6.06	6.07	6.10	6.15	6.19	6.19	6.23	6.10	6.07
180	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85

Vert. Angles **Horizontal Angles**

	100	105	110	115	120	125	130	135	140	145
0	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60
5	1132.42	1129.14	1120.21	1112.95	1102.44	1095.19	1084.56	1076.95	1065.06	1056.38
10	1299.15	1290.89	1271.89	1258.66	1235.06	1215.18	1185.41	1159.01	1124.83	1094.13
15	1499.80	1475.48	1447.12	1420.60	1381.26	1340.58	1285.96	1231.13	1172.18	1114.10
20	1650.19	1631.23	1601.45	1558.67	1496.17	1429.19	1357.67	1283.33	1208.57	1137.24
25	1729.71	1724.35	1689.81	1633.13	1565.40	1487.26	1404.80	1322.50	1244.91	1169.90
30	1767.97	1762.38	1727.63	1666.74	1589.23	1502.61	1417.66	1332.54	1251.15	1174.22
35	1783.36	1780.45	1751.39	1678.83	1584.99	1486.97	1401.81	1317.66	1243.60	1172.21
40	1796.45	1790.21	1720.56	1597.79	1500.40	1409.33	1332.62	1250.84	1173.85	1087.24
45	1806.47	1718.94	1574.81	1452.83	1375.58	1294.41	1217.48	1125.02	1040.89	939.58
50	1723.03	1562.42	1419.59	1350.28	1260.84	1159.35	1052.39	894.34	765.63	657.18
55	1648.88	1388.50	1240.30	1115.07	978.08	723.67	524.05	427.88	401.88	379.79
60	1614.15	1218.61	949.61	605.13	358.66	294.81	312.52	333.97	272.61	252.41
65	1639.42	1026.18	608.83	285.60	264.97	267.41	283.57	342.02	306.58	267.69
70	1637.62	931.95	265.70	171.60	175.50	170.12	176.31	178.65	219.77	217.80
75	1102.79	268.02	122.37	113.18	106.69	102.83	101.51	104.04	109.20	111.34
80	143.02	76.21	72.42	90.14	75.32	69.34	68.45	69.40	70.23	70.60
85	33.40	32.17	33.93	41.59	36.93	34.77	34.91	33.12	30.82	27.39
90	3.51	3.63	4.18	4.16	4.65	4.33	4.51	4.18	4.21	2.55
95	3.77	3.82	3.67	3.61	3.49	3.45	3.22	2.89	2.36	1.88
100	5.10	5.44	5.43	5.37	5.23	5.26	5.21	5.14	4.69	4.11
105	5.74	6.21	6.43	6.40	6.31	6.27	6.34	6.47	6.43	6.11
110	5.88	6.42	6.76	6.79	6.66	6.53	6.60	6.80	7.01	7.04
115	6.62	7.23	7.60	7.64	7.39	7.12	7.00	7.08	7.21	7.24
120	6.83	7.22	7.49	7.66	7.66	7.62	7.65	7.75	7.88	7.89
125	7.00	7.17	7.35	7.44	7.49	7.45	7.38	7.38	7.49	7.62
130	7.10	7.20	7.35	7.53	7.74	7.79	7.69	7.47	7.22	7.02
135	6.70	6.73	6.77	6.91	7.24	7.49	7.73	7.76	7.69	7.54

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CANDELA TABULATION - (Cont.)

140	6.51	6.56	6.51	6.45	6.46	6.53	6.67	6.77	6.89	6.97
145	6.44	6.50	6.47	6.42	6.35	6.27	6.19	6.12	6.12	6.13
150	6.27	6.32	6.32	6.28	6.23	6.17	6.07	6.03	6.00	5.95
155	6.07	6.09	6.10	6.07	6.04	6.00	5.96	5.97	5.96	5.94
160	5.92	5.91	5.90	5.88	5.86	5.82	5.81	5.85	5.88	5.89
165	5.87	5.82	5.82	5.80	5.80	5.74	5.76	5.79	5.81	5.82
170	5.95	5.89	5.91	5.87	5.88	5.83	5.85	5.85	5.86	5.83
175	6.08	6.03	6.03	5.98	5.98	5.92	5.94	5.94	5.92	5.89
180	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85	5.85

Vert. Angles **Horizontal Angles**

	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60	1038.60
5	1046.57	1037.53	1028.33	1019.60	1011.79	1005.48	1000.04
10	1062.15	1029.75	1000.00	971.60	951.15	930.24	920.33
15	1055.45	998.68	949.17	903.45	866.87	837.44	818.89
20	1067.35	1003.33	942.58	891.98	847.53	814.95	793.30
25	1099.12	1030.11	965.55	904.80	853.07	813.52	786.07
30	1101.85	1033.00	966.87	903.76	846.47	808.11	781.24
35	1104.56	1039.42	978.05	916.60	862.87	824.30	796.42
40	1012.53	938.38	880.31	827.05	789.20	754.78	739.30
45	854.30	770.53	714.72	660.37	627.51	592.63	581.01
50	593.72	531.36	499.02	466.34	447.93	432.23	430.57
55	374.43	360.87	356.00	355.41	359.15	359.45	357.76
60	257.25	260.17	271.88	283.73	276.38	272.43	273.56
65	262.95	269.13	266.62	267.95	258.72	260.53	255.75
70	226.28	222.51	227.18	217.75	217.38	207.70	206.47
75	115.43	119.26	124.00	125.92	128.28	128.54	128.51
80	73.16	75.48	78.25	79.96	82.29	81.90	81.78
85	27.65	25.94	25.28	21.57	16.96	13.10	14.79
90	2.04	1.38	1.28	0.72	0.55	0.39	0.37
95	1.41	1.16	0.92	0.82	0.74	0.72	0.71
100	3.39	2.91	2.44	2.23	2.00	1.96	1.89
105	5.49	4.95	4.37	4.05	3.73	3.62	3.50
110	6.80	6.43	5.97	5.63	5.29	5.22	5.14
115	7.11	6.89	6.64	6.35	6.24	6.16	6.08
120	7.78	7.62	7.38	7.25	7.11	7.09	7.05
125	7.71	7.74	7.73	7.74	7.73	7.75	7.73
130	6.91	6.89	6.94	7.00	7.12	7.26	7.33
135	7.40	7.25	7.13	7.09	7.09	7.18	7.21
140	7.01	6.99	7.00	7.00	7.02	7.05	7.04
145	6.13	6.15	6.21	6.27	6.33	6.36	6.38
150	5.90	5.89	5.89	5.94	5.96	5.99	6.00
155	5.91	5.87	5.86	5.87	5.87	5.88	5.91
160	5.87	5.88	5.87	5.89	5.89	5.89	5.95
165	5.80	5.82	5.83	5.87	5.88	5.91	5.99
170	5.83	5.81	5.82	5.85	5.86	5.91	5.99
175	5.88	5.86	5.83	5.85	5.84	5.86	5.91
180	5.85	5.85	5.85	5.85	5.85	5.85	5.85

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1099.55	N.A.	16.50
0-40	1967.93	N.A.	29.50
0-60	4302.27	N.A.	64.40
0-90	6652.14	N.A.	99.60
90-120	10.93	N.A.	0.20
90-130	15.94	N.A.	0.20
90-150	23.96	N.A.	0.40
90-180	28.79	N.A.	0.40
0-180	6680.92	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	106.80
10-20	362.11
20-30	630.64
30-40	868.38
40-50	1056.12
50-60	1278.22
60-70	1569.13
70-80	730.88
80-90	49.86
90-100	2.27
100-110	3.84
110-120	4.82
120-130	5.00
130-140	4.48
140-150	3.55
150-160	2.63
160-170	1.64
170-180	0.56

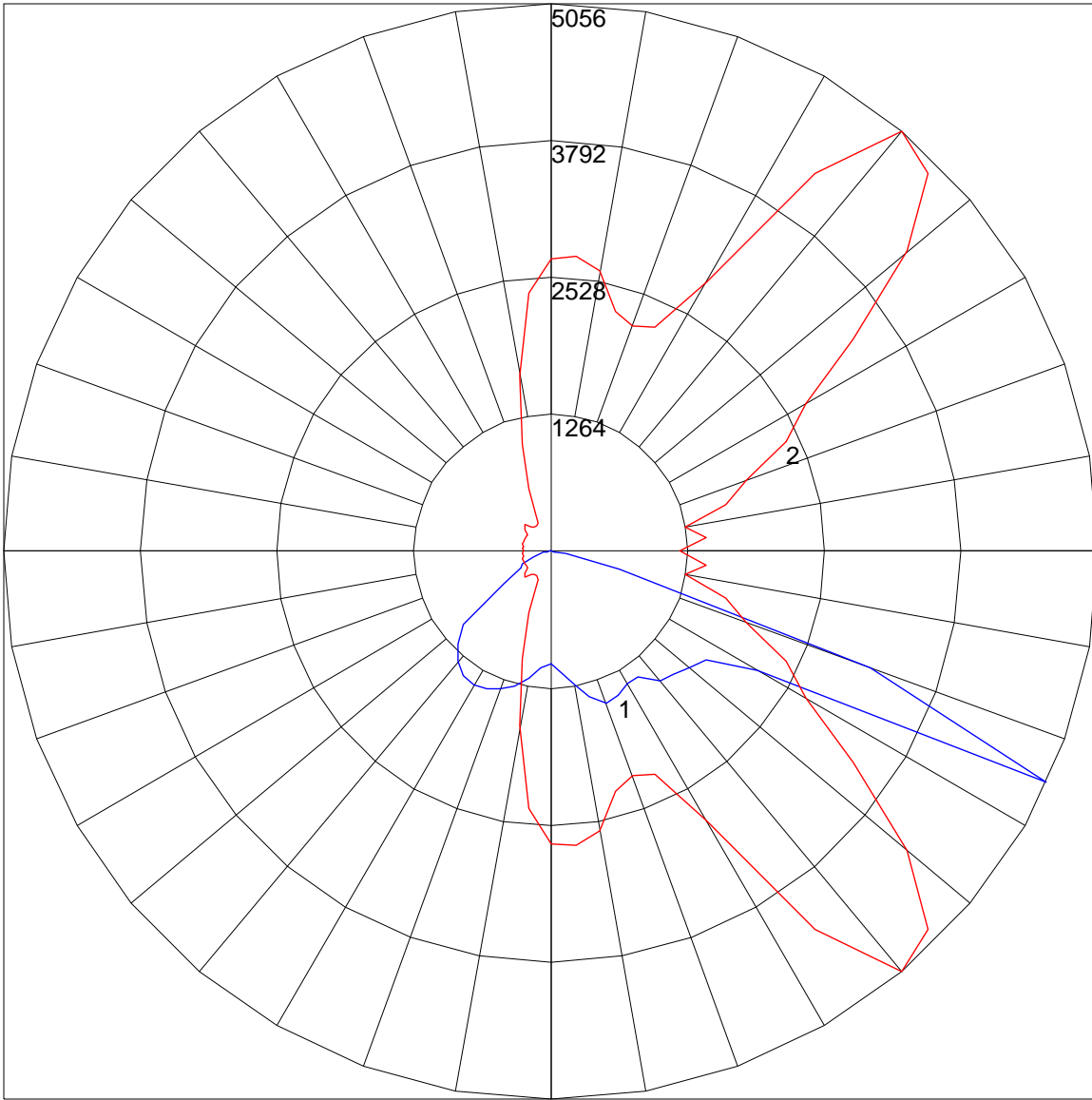
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	107	102	97	92	104	99	95	91	95	91	88	91	88	85	87	85	82	80
2	95	86	78	71	92	84	76	70	80	74	68	76	71	67	73	69	65	63
3	85	73	63	56	82	71	62	55	68	60	54	65	59	53	62	57	52	50
4	77	63	53	45	74	61	52	45	59	50	44	56	49	43	54	48	43	40
5	70	55	45	37	67	54	44	37	51	43	36	49	42	36	47	41	35	33
6	64	49	39	31	62	48	38	31	46	37	31	44	36	30	42	35	30	28
7	59	43	34	27	57	43	33	27	41	33	26	39	32	26	38	31	26	24
8	54	39	30	23	52	38	30	23	37	29	23	36	28	23	34	28	23	21
9	50	36	27	21	49	35	26	21	34	26	20	33	25	20	31	25	20	18
10	47	33	24	18	46	32	24	18	31	23	18	30	23	18	29	23	18	16

POLAR GRAPH



Maximum Candela = 5056.42 Located At Horizontal Angle = 50, Vertical Angle = 65
1 - Vertical Plane Through Horizontal Angles (50 - 230) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (65) (Through Max. Cd.)