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## IES INDOOR REPORT

PHOTOMETRIC FILENAME : FSN MROR 14 BOWL.IES

### DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002

[TEST] LLI-18210-3

[TESTLAB] LightLab International ([www.LightLabInternational.com](http://www.LightLabInternational.com))

[MANUFAC] Justice Design Group, Los Angeles, CA 90071

[LUMCAT] Artisan Glass (FSN) - Mercury Glass (MROR) 14" Bowl

[LUMINAIRE] Justice Design Group - Pendant mount luminaire. Product ID: FSN MROR 14" Bowl

[MORE] Extruded base plate with frosted glass bowl lens.

[MORE] 42 LEDs with 21 in each of two arrays with white plastic lenses.

[MORE] No driver.

[MORE] Operating at 120 VAC and 60 Hz.

[OTHER] Absolute test - lamp lumens value set to -1

[MORE] NA conventions used for C0 plane alignment and C-plane rotation direction.

[MORE] The sample was tested at a distance of 8m.

[MORE] This IES file created by LightLab/LSA Report program version 3.820a.

[DATE] This file created: Monday, August 6, 2018 2:20:59 PM

[ISSUEDATE] Monday, August 6, 2018 2:20:59 PM

### CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	1130
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	50
Total Luminaire Watts	22.7
Ballast Factor	1.00
CIE Type	General Diffuse
Spacing Criterion (0-180)	N.A.
Spacing Criterion (90-270)	N.A.
Spacing Criterion (Diagonal)	N.A.
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	0.36 m (Diameter)
Luminous Width (90-270)	0.36 m (Diameter)
Luminous Height	0.10 m

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**LUMINANCE DATA (cd/sq.m)**

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1250	1250	1250
55	1125	1125	1125
65	995	995	995
75	866	866	866
85	757	757	757

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CANDELA TABULATION

	<u>0</u>
0.0	176.063
0.5	176.055
1.0	176.038
1.5	175.996
2.0	175.938
2.5	175.855
3.0	175.780
3.5	175.680
4.0	175.555
4.5	175.438
5.0	175.288
5.5	175.138
6.0	174.938
6.5	174.755
7.0	174.538
7.5	174.314
8.0	174.072
8.5	173.814
9.0	173.539
9.5	173.264
10.0	172.964
10.5	172.673
11.0	172.348
11.5	171.990
12.0	171.640
12.5	171.273
13.0	170.882
13.5	170.482
14.0	170.074
14.5	169.640
15.0	169.199
15.5	168.741
16.0	168.249
16.5	167.758
17.0	167.258
17.5	166.742
18.0	166.192
18.5	165.667
19.0	165.084
19.5	164.509
20.0	163.926
20.5	163.318
21.0	162.702
21.5	162.060
22.0	161.419
22.5	160.752
23.0	160.094
23.5	159.395
24.0	158.687
24.5	157.987
25.0	157.279
25.5	156.529
26.0	155.771
26.5	155.030

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**CANDELA TABULATION - (Cont.)**

<b>27.0</b>	154.238
<b>27.5</b>	153.480
<b>28.0</b>	152.681
<b>28.5</b>	151.873
<b>29.0</b>	151.065
<b>29.5</b>	150.240
<b>30.0</b>	149.407
<b>30.5</b>	148.541
<b>31.0</b>	147.691
<b>31.5</b>	146.808
<b>32.0</b>	145.958
<b>32.5</b>	145.059
<b>33.0</b>	144.151
<b>33.5</b>	143.251
<b>34.0</b>	142.335
<b>34.5</b>	141.402
<b>35.0</b>	140.452
<b>35.5</b>	139.511
<b>36.0</b>	138.561
<b>36.5</b>	137.603
<b>37.0</b>	136.637
<b>37.5</b>	135.654
<b>38.0</b>	134.679
<b>38.5</b>	133.672
<b>39.0</b>	132.680
<b>39.5</b>	131.672
<b>40.0</b>	130.648
<b>40.5</b>	129.615
<b>41.0</b>	128.615
<b>41.5</b>	127.557
<b>42.0</b>	126.499
<b>42.5</b>	125.458
<b>43.0</b>	124.400
<b>43.5</b>	123.342
<b>44.0</b>	122.259
<b>44.5</b>	121.193
<b>45.0</b>	120.119
<b>45.5</b>	119.052
<b>46.0</b>	117.978
<b>46.5</b>	116.870
<b>47.0</b>	115.779
<b>47.5</b>	114.662
<b>48.0</b>	113.580
<b>48.5</b>	112.447
<b>49.0</b>	111.347
<b>49.5</b>	110.214
<b>50.0</b>	109.148
<b>50.5</b>	108.007
<b>51.0</b>	106.866
<b>51.5</b>	105.749
<b>52.0</b>	104.591
<b>52.5</b>	103.475
<b>53.0</b>	102.317
<b>53.5</b>	101.185
<b>54.0</b>	100.027
<b>54.5</b>	98.910

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**CANDELA TABULATION - (Cont.)**

<b>55.0</b>	97.753
<b>55.5</b>	96.603
<b>56.0</b>	95.453
<b>56.5</b>	94.287
<b>57.0</b>	93.129
<b>57.5</b>	91.972
<b>58.0</b>	90.814
<b>58.5</b>	89.647
<b>59.0</b>	88.540
<b>59.5</b>	87.365
<b>60.0</b>	86.199
<b>60.5</b>	85.058
<b>61.0</b>	83.883
<b>61.5</b>	82.717
<b>62.0</b>	81.551
<b>62.5</b>	80.409
<b>63.0</b>	79.235
<b>63.5</b>	78.119
<b>64.0</b>	76.953
<b>64.5</b>	75.811
<b>65.0</b>	74.670
<b>65.5</b>	73.504
<b>66.0</b>	72.388
<b>66.5</b>	71.255
<b>67.0</b>	70.114
<b>67.5</b>	68.981
<b>68.0</b>	67.890
<b>68.5</b>	66.757
<b>69.0</b>	65.649
<b>69.5</b>	64.549
<b>70.0</b>	63.433
<b>70.5</b>	62.342
<b>71.0</b>	61.234
<b>71.5</b>	60.143
<b>72.0</b>	59.051
<b>72.5</b>	58.010
<b>73.0</b>	56.919
<b>73.5</b>	55.869
<b>74.0</b>	54.820
<b>74.5</b>	53.753
<b>75.0</b>	52.737
<b>75.5</b>	51.696
<b>76.0</b>	50.671
<b>76.5</b>	49.647
<b>77.0</b>	48.664
<b>77.5</b>	47.656
<b>78.0</b>	46.656
<b>78.5</b>	45.690
<b>79.0</b>	44.715
<b>79.5</b>	43.757
<b>80.0</b>	42.808
<b>80.5</b>	41.875
<b>81.0</b>	40.942
<b>81.5</b>	40.042
<b>82.0</b>	39.126
<b>82.5</b>	38.243

**IES INDOOR REPORT**  
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**CANDELA TABULATION - (Cont.)**

<b>83.0</b>	37.385
<b>83.5</b>	36.494
<b>84.0</b>	35.661
<b>84.5</b>	34.803
<b>85.0</b>	33.986
<b>85.5</b>	33.170
<b>86.0</b>	32.395
<b>86.5</b>	31.596
<b>87.0</b>	30.829
<b>87.5</b>	30.080
<b>88.0</b>	29.322
<b>88.5</b>	28.622
<b>89.0</b>	27.906
<b>89.5</b>	27.231
<b>90.0</b>	26.664
<b>90.5</b>	26.215
<b>91.0</b>	25.848
<b>91.5</b>	25.531
<b>92.0</b>	25.273
<b>92.5</b>	24.998
<b>93.0</b>	24.773
<b>93.5</b>	24.565
<b>94.0</b>	24.374
<b>94.5</b>	24.240
<b>95.0</b>	24.265
<b>95.5</b>	24.515
<b>96.0</b>	25.048
<b>96.5</b>	25.848
<b>97.0</b>	26.848
<b>97.5</b>	28.030
<b>98.0</b>	29.180
<b>98.5</b>	30.288
<b>99.0</b>	31.454
<b>99.5</b>	32.537
<b>100.0</b>	33.653
<b>100.5</b>	34.869
<b>101.0</b>	36.119
<b>101.5</b>	37.452
<b>102.0</b>	38.759
<b>102.5</b>	40.109
<b>103.0</b>	41.383
<b>103.5</b>	42.683
<b>104.0</b>	43.932
<b>104.5</b>	45.207
<b>105.0</b>	46.481
<b>105.5</b>	47.739
<b>106.0</b>	49.014
<b>106.5</b>	50.272
<b>107.0</b>	51.546
<b>107.5</b>	52.771
<b>108.0</b>	54.045
<b>108.5</b>	55.253
<b>109.0</b>	56.486
<b>109.5</b>	57.694
<b>110.0</b>	58.918
<b>110.5</b>	60.168

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**CANDELA TABULATION - (Cont.)**

<b>111.0</b>	61.450
<b>111.5</b>	62.767
<b>112.0</b>	64.066
<b>112.5</b>	65.449
<b>113.0</b>	66.790
<b>113.5</b>	68.214
<b>114.0</b>	69.689
<b>114.5</b>	71.172
<b>115.0</b>	72.696
<b>115.5</b>	74.220
<b>116.0</b>	75.786
<b>116.5</b>	77.352
<b>117.0</b>	79.010
<b>117.5</b>	80.609
<b>118.0</b>	82.259
<b>118.5</b>	83.958
<b>119.0</b>	85.657
<b>119.5</b>	87.365
<b>120.0</b>	89.064
<b>120.5</b>	90.805
<b>121.0</b>	92.521
<b>121.5</b>	94.279
<b>122.0</b>	95.987
<b>122.5</b>	97.744
<b>123.0</b>	99.477
<b>123.5</b>	101.168
<b>124.0</b>	102.884
<b>124.5</b>	104.575
<b>125.0</b>	106.249
<b>125.5</b>	107.874
<b>126.0</b>	109.481
<b>126.5</b>	111.006
<b>127.0</b>	112.530
<b>127.5</b>	114.038
<b>128.0</b>	115.495
<b>128.5</b>	116.895
<b>129.0</b>	118.303
<b>129.5</b>	119.652
<b>130.0</b>	120.960
<b>130.5</b>	122.226
<b>131.0</b>	123.417
<b>131.5</b>	124.633
<b>132.0</b>	125.791
<b>132.5</b>	126.883
<b>133.0</b>	127.957
<b>133.5</b>	128.973
<b>134.0</b>	129.973
<b>134.5</b>	130.923
<b>135.0</b>	131.814
<b>135.5</b>	132.680
<b>136.0</b>	133.497
<b>136.5</b>	134.305
<b>137.0</b>	135.054
<b>137.5</b>	135.771
<b>138.0</b>	136.454
<b>138.5</b>	137.128

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**CANDELA TABULATION - (Cont.)**

<b>139.0</b>	137.737
<b>139.5</b>	138.303
<b>140.0</b>	138.878
<b>140.5</b>	139.378
<b>141.0</b>	139.877
<b>141.5</b>	140.336
<b>142.0</b>	140.760
<b>142.5</b>	141.185
<b>143.0</b>	141.560
<b>143.5</b>	141.918
<b>144.0</b>	142.285
<b>144.5</b>	142.585
<b>145.0</b>	142.901
<b>145.5</b>	143.159
<b>146.0</b>	143.451
<b>146.5</b>	143.701
<b>147.0</b>	143.942
<b>147.5</b>	144.159
<b>148.0</b>	144.367
<b>148.5</b>	144.575
<b>149.0</b>	144.800
<b>149.5</b>	145.009
<b>150.0</b>	145.209
<b>150.5</b>	145.408
<b>151.0</b>	145.625
<b>151.5</b>	145.817
<b>152.0</b>	146.025
<b>152.5</b>	146.233
<b>153.0</b>	146.425
<b>153.5</b>	146.600
<b>154.0</b>	146.783
<b>154.5</b>	146.958
<b>155.0</b>	147.116
<b>155.5</b>	147.299
<b>156.0</b>	147.474
<b>156.5</b>	147.649
<b>157.0</b>	147.824
<b>157.5</b>	147.974
<b>158.0</b>	148.166
<b>158.5</b>	148.332
<b>159.0</b>	148.507
<b>159.5</b>	148.699
<b>160.0</b>	148.882
<b>160.5</b>	149.074
<b>161.0</b>	149.249
<b>161.5</b>	149.424
<b>162.0</b>	149.598
<b>162.5</b>	149.807
<b>163.0</b>	149.990
<b>163.5</b>	150.215
<b>164.0</b>	150.448
<b>164.5</b>	150.565
<b>165.0</b>	150.540
<b>165.5</b>	150.398
<b>166.0</b>	150.032
<b>166.5</b>	149.407



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**CANDELA TABULATION - (Cont.)**

<b>167.0</b>	148.616
<b>167.5</b>	147.466
<b>168.0</b>	146.100
<b>168.5</b>	144.609
<b>169.0</b>	142.826
<b>169.5</b>	140.885
<b>170.0</b>	138.778
<b>170.5</b>	136.520
<b>171.0</b>	134.096
<b>171.5</b>	131.689
<b>172.0</b>	129.148
<b>172.5</b>	126.574
<b>173.0</b>	123.967
<b>173.5</b>	121.127
<b>174.0</b>	118.028
<b>174.5</b>	114.546
<b>175.0</b>	110.856
<b>175.5</b>	106.766
<b>176.0</b>	102.434
<b>176.5</b>	97.536
<b>177.0</b>	92.038
<b>177.5</b>	86.274
<b>178.0</b>	79.560
<b>178.5</b>	72.246
<b>179.0</b>	64.899
<b>179.5</b>	58.177
<b>180.0</b>	52.587

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**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	64.41	N.A.	5.70
0-30	136.90	N.A.	12.10
0-40	224.80	N.A.	19.90
0-60	404.99	N.A.	35.90
0-80	534.83	N.A.	47.30
0-90	572.15	N.A.	50.60
10-90	555.49	N.A.	49.20
20-40	160.39	N.A.	14.20
20-50	253.12	N.A.	22.40
40-70	254.20	N.A.	22.50
60-80	129.84	N.A.	11.50
70-80	55.83	N.A.	4.90
80-90	37.32	N.A.	3.30
90-110	78.11	N.A.	6.90
90-120	150.50	N.A.	13.30
90-130	245.12	N.A.	21.70
90-150	436.01	N.A.	38.60
90-180	557.53	N.A.	49.40
110-180	479.42	N.A.	42.40
0-180	1129.68	N.A.	100.00

Total Luminaire Efficiency = N.A. %

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	16.66
10-20	47.75
20-30	72.49
30-40	87.90
40-50	92.73
50-60	87.46
60-70	74.01
70-80	55.83
80-90	37.32
90-100	29.12
100-110	48.99
110-120	72.39
120-130	94.62
130-140	101.39
140-150	89.50
150-160	68.03
160-170	42.11
170-180	11.38

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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	107	107	107	107	99	99	99	99	84	84	84	70	70	70	57	57	57	51
1	97	92	87	83	89	85	81	77	71	69	66	59	57	55	48	47	45	40
2	87	79	73	67	80	73	67	62	62	57	54	51	48	45	42	39	37	32
3	79	69	61	55	73	64	57	52	54	49	44	45	41	38	36	34	31	27
4	72	61	53	46	66	56	49	43	48	42	38	40	35	32	32	29	26	23
5	66	54	46	39	61	50	43	37	43	37	32	36	31	27	29	26	23	20
6	61	49	40	34	56	45	37	32	38	32	28	32	27	24	26	23	20	17
7	56	44	35	30	52	41	33	28	35	29	24	29	24	21	24	20	18	15
8	52	40	32	26	48	37	30	25	32	26	22	27	22	19	22	18	16	13
9	49	36	28	23	45	34	27	22	29	23	19	24	20	17	20	17	14	12
10	45	33	26	21	42	31	24	20	27	21	17	23	18	15	19	15	13	11

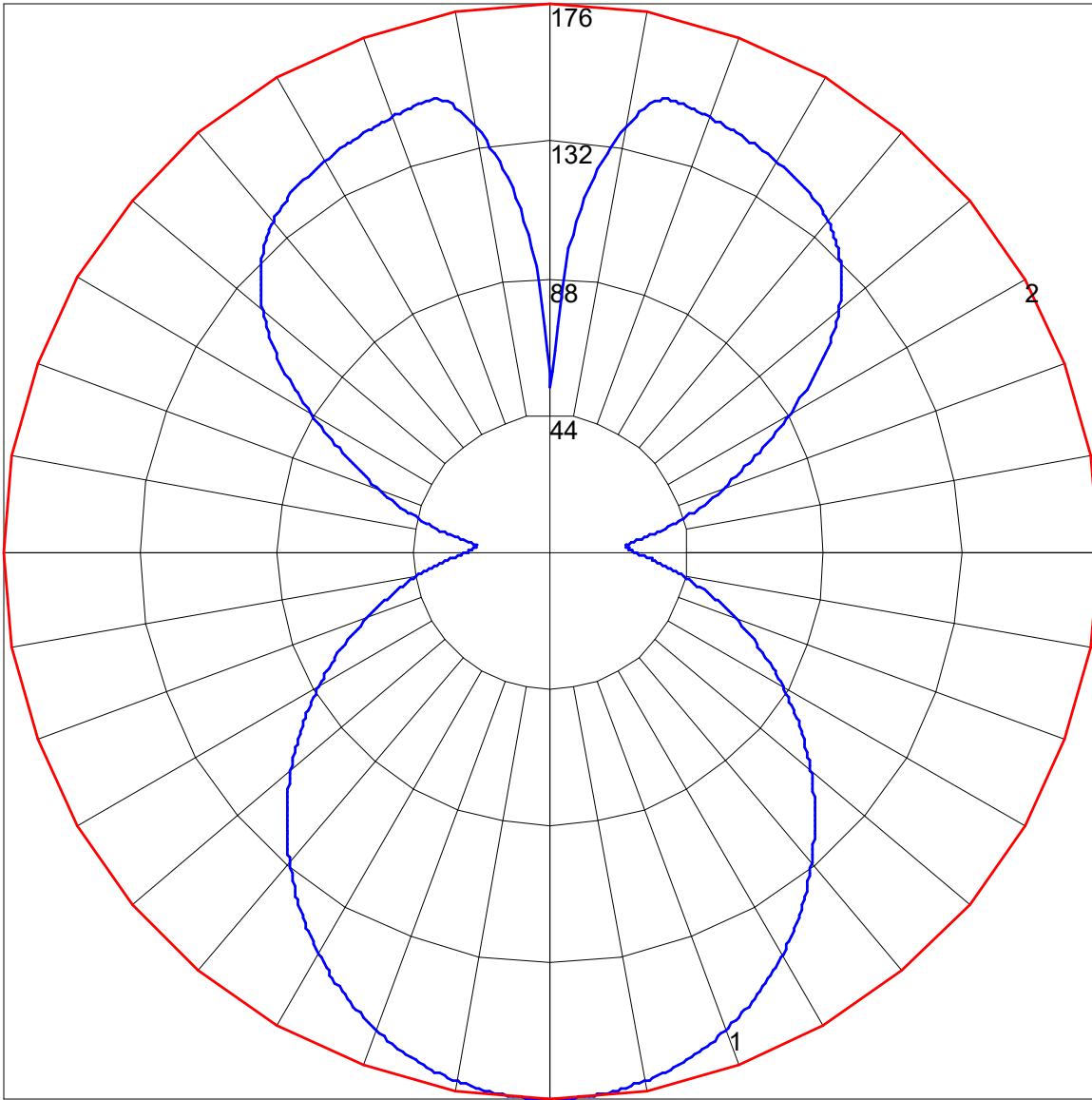
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**UGR TABLE - CORRECTED**

Reflectances											
Ceiling Cavity	70	70	50	50	30	70	70	50	50	30	
Walls	50	30	50	30	30	50	30	50	30	30	
Floor Cavity	20	20	20	20	20	20	20	20	20	20	
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	7.8	8.7	8.7	9.6	10.9	7.8	8.7	8.7	9.6	10.9
	3H	9.7	10.6	10.7	11.5	12.8	9.7	10.6	10.7	11.5	12.8
	4H	10.6	11.4	11.6	12.4	13.6	10.6	11.4	11.6	12.4	13.6
	6H	11.4	12.1	12.3	13.1	14.4	11.4	12.1	12.3	13.1	14.4
	8H	11.7	12.4	12.7	13.4	14.7	11.7	12.4	12.7	13.4	14.7
	12H	12.0	12.7	13.0	13.7	15.0	12.0	12.7	13.0	13.7	15.0
4H	2H	8.3	9.1	9.3	10.1	11.4	8.3	9.1	9.3	10.1	11.4
	3H	10.5	11.2	11.5	12.2	13.5	10.5	11.2	11.5	12.2	13.5
	4H	11.5	12.1	12.5	13.1	14.4	11.5	12.1	12.5	13.1	14.4
	6H	12.4	13.0	13.4	14.0	15.3	12.4	13.0	13.4	14.0	15.3
	8H	12.9	13.4	13.9	14.4	15.7	12.9	13.4	13.9	14.4	15.7
	12H	13.3	13.7	14.3	14.7	16.1	13.3	13.7	14.3	14.7	16.1
8H	4H	11.8	12.3	12.8	13.3	14.7	11.8	12.3	12.8	13.3	14.7
	6H	12.9	13.4	14.0	14.4	15.7	12.9	13.4	14.0	14.4	15.7
	8H	13.5	13.9	14.5	14.9	16.2	13.5	13.9	14.5	14.9	16.2
	12H	14.0	14.4	15.0	15.4	16.8	14.0	14.4	15.0	15.4	16.8
12H	4H	11.9	12.3	12.9	13.3	14.7	11.9	12.3	12.9	13.3	14.7
	6H	13.0	13.4	14.1	14.4	15.8	13.0	13.4	14.1	14.4	15.8
	8H	13.6	14.0	14.7	15.0	16.4	13.6	14.0	14.7	15.0	16.4

Maximum UGR = 16.8

POLAR GRAPH



Maximum Candela = 176.063 Located At Horizontal Angle = 0, Vertical Angle = 0  
# 1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (0) (Through Max. Cd.)