

IES INDOOR REPORT
PHOTOMETRIC FILENAME : VLP-16-35K-BK.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
 [TEST] 3301
 [ECN] 3211
 [TESTLAB] Tempo LLC
 [ISSUE DATE] 12/8/2017 1:20:26 PM
 [MANUFAC] Tempo LLC
 [LUMCAT] VLP-16-35K-BK
 [LUMINAIRE] Black aluminum housing, post mount with post
 [LAMP] Three (3) white LEDs (3500K)
 [ELECTRICALS] 12.07 VAC, 0.04 A, 0.9297 PF, 31% ATHD

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	14
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	30
Total Luminaire Watts	0.48
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	2.80
Spacing Criterion (90-270)	1.80
Spacing Criterion (Diagonal)	2.08
Basic Luminous Shape	Rectangular w/Sides
Luminous Length (0-180)	0.04 ft
Luminous Width (90-270)	0.08 ft
Luminous Height	0.21 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	9692	7549	3605
55	3856	4782	2292
65	450	912	956
75	37	40	174
85	18	17	0

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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>
0.0	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
2.5	5.12	5.13	5.14	5.14	5.02	4.96	4.89	4.81	4.78	4.57
5.0	6.19	6.19	6.19	6.14	6.10	6.05	5.98	5.91	5.82	5.71
7.5	6.88	6.88	6.85	6.82	6.76	6.69	6.60	6.51	6.39	6.27
10.0	7.56	7.56	7.52	7.47	7.40	7.31	7.20	7.06	6.92	6.76
12.5	8.21	8.21	8.16	8.10	8.02	7.90	7.77	7.61	7.43	7.23
15.0	8.85	8.85	8.79	8.72	8.61	8.48	8.33	8.14	7.95	7.68
17.5	9.44	9.44	9.38	9.30	9.20	9.04	8.86	8.64	8.37	8.07
20.0	10.00	10.01	9.94	9.85	9.73	9.57	9.37	9.10	8.79	8.45
22.5	10.55	10.55	10.47	10.38	10.24	10.08	9.81	9.52	9.19	8.83
25.0	11.07	11.05	10.98	10.87	10.73	10.52	10.25	9.92	9.56	9.17
27.5	11.57	11.54	11.46	11.35	11.19	10.93	10.63	10.29	9.91	9.49
30.0	12.01	11.98	11.92	11.79	11.60	11.34	11.01	10.65	10.24	9.76
32.5	12.42	12.40	12.33	12.20	11.99	11.70	11.37	10.99	10.53	10.03
35.0	12.80	12.78	12.71	12.58	12.33	12.03	11.70	11.27	10.79	10.28
37.5	13.16	13.13	13.05	12.89	12.64	12.34	11.98	11.55	11.03	10.49
40.0	13.50	13.43	13.35	13.16	12.92	12.62	12.22	11.77	11.25	10.67
42.5	13.49	13.39	13.32	13.17	12.98	12.75	12.34	11.97	11.44	10.80
45.0	13.27	13.10	13.08	12.87	12.78	12.51	12.27	12.00	11.42	10.86
47.5	12.11	11.85	11.85	11.80	12.04	11.81	11.89	11.51	11.16	10.79
50.0	10.36	10.05	10.03	10.14	10.33	10.51	10.77	10.58	10.54	10.50
52.5	8.13	7.80	7.81	8.07	8.29	8.69	8.90	9.16	9.50	9.21
55.0	5.81	5.47	5.49	5.82	6.05	6.47	6.82	7.31	7.60	7.59
57.5	3.65	3.40	3.44	3.69	3.90	4.38	4.64	5.24	5.56	5.76
60.0	2.21	2.04	2.05	2.18	2.34	2.68	2.90	3.44	3.59	3.98
62.5	1.28	1.17	1.18	1.24	1.37	1.50	1.75	2.00	2.09	2.65
65.0	0.72	0.63	0.65	0.68	0.75	0.82	0.97	1.02	1.30	1.54
67.5	0.31	0.25	0.27	0.30	0.33	0.40	0.43	0.57	0.68	0.64
70.0	0.08	0.08	0.09	0.10	0.12	0.11	0.22	0.24	0.22	0.37
72.5	0.06	0.06	0.06	0.06	0.06	0.06	0.10	0.06	0.13	0.20
75.0	0.06	0.06	0.06	0.06	0.06	0.05	0.05	0.05	0.07	0.07
77.5	0.05	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.04
80.0	0.05	0.05	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.03
82.5	0.04	0.04	0.04	0.04	0.04	0.04	0.03	0.03	0.03	0.03
85.0	0.03	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03
87.5	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vert. 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>
0.0	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
2.5	4.43	4.34	4.09	3.91	3.71	3.50	3.35	3.08	2.87	2.69
5.0	5.58	5.42	5.24	4.99	4.70	4.36	3.99	3.65	3.18	2.80
7.5	6.13	5.97	5.80	5.59	5.33	5.05	4.58	4.07	3.49	2.90
10.0	6.60	6.39	6.18	5.95	5.73	5.41	5.03	4.51	3.80	2.97
12.5	7.02	6.77	6.50	6.21	5.90	5.58	5.19	4.67	3.93	3.11
15.0	7.39	7.09	6.78	6.43	6.07	5.70	5.29	4.77	4.06	3.17
17.5	7.75	7.42	7.03	6.63	6.25	5.81	5.36	4.85	4.19	3.34
20.0	8.09	7.70	7.28	6.85	6.38	5.90	5.43	4.89	4.31	3.54
22.5	8.42	8.00	7.53	7.03	6.51	5.96	5.40	4.86	4.21	3.41
25.0	8.74	8.25	7.74	7.18	6.60	6.01	5.40	4.77	4.11	3.30
27.5	9.01	8.49	7.91	7.32	6.70	6.05	5.39	4.70	4.00	3.21
30.0	9.25	8.69	8.10	7.46	6.79	6.11	5.38	4.62	3.90	3.17

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32.5	9.48	8.90	8.26	7.57	6.85	6.10	5.31	4.52	3.74	2.96
35.0	9.70	9.07	8.39	7.65	6.88	6.08	5.25	4.41	3.59	2.76
37.5	9.89	9.23	8.49	7.74	6.92	6.07	5.19	4.30	3.42	2.56
40.0	10.04	9.33	8.58	7.78	6.93	6.04	5.14	4.19	3.26	2.35
42.5	10.16	9.43	8.65	7.83	6.93	5.99	5.01	4.04	3.07	2.13
45.0	10.26	9.54	8.69	7.83	6.89	5.91	4.90	3.89	2.88	1.93
47.5	10.31	9.43	8.63	7.79	6.84	5.83	4.78	3.73	2.69	1.71
50.0	9.73	9.11	8.50	7.74	6.78	5.76	4.66	3.57	2.50	1.51
52.5	8.86	8.61	8.28	7.64	6.57	5.44	4.37	3.28	2.22	1.27
55.0	7.70	7.90	7.59	6.83	5.97	4.99	3.98	2.94	1.94	1.05
57.5	6.24	6.39	6.20	5.83	5.31	4.51	3.61	2.61	1.66	0.79
60.0	4.54	4.70	4.70	4.71	4.57	4.00	3.19	2.27	1.38	0.55
62.5	2.98	3.03	3.12	3.50	3.71	3.27	2.58	1.84	1.11	0.40
65.0	1.58	1.53	2.03	2.56	2.73	2.42	1.91	1.36	0.83	0.27
67.5	0.80	1.03	1.34	1.67	1.76	1.55	1.23	0.88	0.56	0.14
70.0	0.50	0.59	0.71	0.82	0.79	0.66	0.53	0.39	0.29	0.03
72.5	0.23	0.19	0.13	0.23	0.31	0.35	0.35	0.30	0.22	0.03
75.0	0.05	0.05	0.10	0.16	0.22	0.24	0.24	0.20	0.15	0.02
77.5	0.04	0.04	0.06	0.10	0.13	0.14	0.13	0.11	0.08	0.02
80.0	0.03	0.03	0.04	0.04	0.04	0.03	0.02	0.00	0.00	0.00
82.5	0.03	0.02	0.02	0.02	0.02	0.02	0.00	0.00	0.00	0.00
85.0	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.5	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vert. Horizontal Angles
Angles

	<u>100</u>	<u>105</u>	<u>110</u>	<u>115</u>	<u>120</u>	<u>125</u>	<u>130</u>	<u>135</u>	<u>140</u>	<u>145</u>
0.0	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56	2.56
2.5	2.52	2.36	2.21	2.11	1.98	1.88	1.81	1.75	1.70	1.67
5.0	2.46	2.18	1.95	1.79	1.67	1.58	1.51	1.46	1.41	1.38
7.5	2.38	1.99	1.75	1.56	1.44	1.37	1.30	1.25	1.20	1.16
10.0	2.26	1.82	1.53	1.39	1.28	1.21	1.13	1.07	1.00	0.95
12.5	2.30	1.79	1.48	1.29	1.16	1.06	0.97	0.88	0.81	0.74
15.0	2.42	1.78	1.41	1.16	1.01	0.89	0.80	0.71	0.63	0.55
17.5	2.43	1.68	1.25	1.00	0.85	0.73	0.62	0.53	0.45	0.47
20.0	2.42	1.57	1.09	0.86	0.71	0.58	0.47	0.40	0.40	0.28
22.5	2.31	1.48	1.01	0.74	0.58	0.45	0.36	0.30	0.19	0.11
25.0	2.27	1.48	0.93	0.62	0.45	0.33	0.24	0.14	0.10	0.07
27.5	2.31	1.46	0.81	0.49	0.33	0.23	0.14	0.10	0.08	0.07
30.0	2.32	1.39	0.63	0.37	0.24	0.14	0.11	0.09	0.07	0.05
32.5	2.12	1.19	0.50	0.28	0.16	0.11	0.09	0.08	0.05	0.04
35.0	1.90	1.00	0.36	0.20	0.11	0.11	0.09	0.06	0.04	0.03
37.5	1.72	0.86	0.26	0.14	0.10	0.10	0.07	0.05	0.03	0.02
40.0	1.52	0.72	0.19	0.10	0.10	0.09	0.06	0.03	0.02	0.00
42.5	1.30	0.51	0.13	0.09	0.09	0.07	0.04	0.03	0.00	0.00
45.0	1.11	0.30	0.10	0.09	0.08	0.06	0.03	0.02	0.00	0.00
47.5	0.89	0.18	0.08	0.08	0.07	0.05	0.02	0.00	0.00	0.00
50.0	0.67	0.11	0.07	0.07	0.06	0.04	0.00	0.00	0.00	0.00
52.5	0.47	0.08	0.07	0.06	0.05	0.03	0.00	0.00	0.00	0.00
55.0	0.30	0.06	0.06	0.05	0.04	0.02	0.00	0.00	0.00	0.00
57.5	0.17	0.05	0.05	0.05	0.03	0.00	0.00	0.00	0.00	0.00
60.0	0.07	0.04	0.04	0.04	0.03	0.00	0.00	0.00	0.00	0.00
62.5	0.05	0.04	0.04	0.03	0.02	0.00	0.00	0.00	0.00	0.00
65.0	0.04	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00
67.5	0.03	0.03	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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70.0	0.03	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72.5	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75.0	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vert. Horizontal Angles
Angles

	<u>150</u>	<u>155</u>	<u>160</u>	<u>165</u>	<u>170</u>	<u>175</u>	<u>180</u>
0.0	2.56	2.56	2.56	2.56	2.56	2.56	2.56
2.5	1.63	1.61	1.59	1.57	1.56	1.55	1.54
5.0	1.35	1.33	1.31	1.29	1.28	1.27	1.27
7.5	1.12	1.09	1.06	1.04	1.02	1.01	1.01
10.0	0.90	0.86	0.82	0.79	0.78	0.76	0.76
12.5	0.68	0.63	0.59	0.56	0.53	0.51	0.50
15.0	0.48	0.44	0.41	0.41	0.40	0.40	0.38
17.5	0.48	0.36	0.27	0.21	0.18	0.16	0.15
20.0	0.19	0.12	0.08	0.06	0.06	0.05	0.05
22.5	0.08	0.06	0.06	0.05	0.05	0.05	0.05
25.0	0.06	0.05	0.05	0.05	0.05	0.06	0.06
27.5	0.05	0.04	0.04	0.06	0.05	0.07	0.07
30.0	0.04	0.05	0.05	0.05	0.05	0.06	0.07
32.5	0.03	0.04	0.04	0.05	0.06	0.08	0.08
35.0	0.03	0.03	0.05	0.06	0.06	0.08	0.08
37.5	0.02	0.03	0.04	0.06	0.06	0.07	0.08
40.0	0.02	0.03	0.04	0.04	0.06	0.07	0.08
42.5	0.03	0.03	0.04	0.04	0.05	0.06	0.07
45.0	0.02	0.02	0.02	0.03	0.02	0.00	0.00
47.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
50.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
52.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
55.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
57.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
62.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
65.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
67.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
70.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
72.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
75.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
77.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
80.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
82.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
85.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00
90.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	1.54	N.A.	10.80
0-30	3.70	N.A.	25.80
0-40	6.85	N.A.	47.80
0-60	13.44	N.A.	93.80
0-80	14.31	N.A.	99.90
0-90	14.32	N.A.	100.00
10-90	13.98	N.A.	97.60
20-40	5.32	N.A.	37.10
20-50	9.14	N.A.	63.80
40-70	7.38	N.A.	51.50
60-80	0.87	N.A.	6.10
70-80	0.07	N.A.	0.50
80-90	0.01	N.A.	0.10
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	14.32	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	0.34
10-20	1.19
20-30	2.16
30-40	3.16
40-50	3.83
50-60	2.76
60-70	0.79
70-80	0.07
80-90	0.01
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

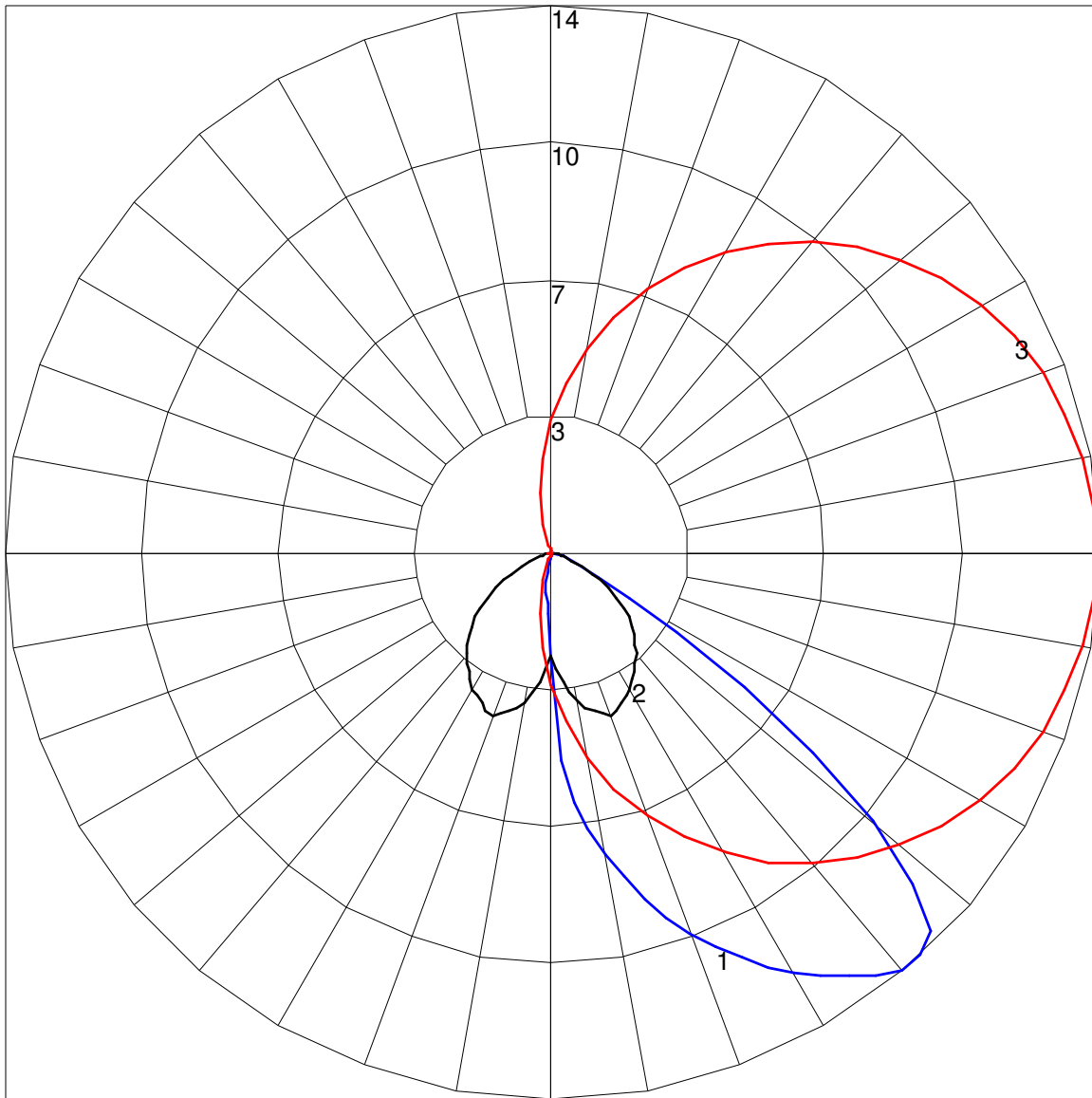
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	122	122	122	122	119	119	119	119	114	114	114	109	109	109	104	104	104	102
1	113	109	106	103	111	107	104	101	103	100	98	99	97	95	95	94	92	90
2	104	97	91	86	102	95	90	85	92	87	83	88	85	81	85	82	79	77
3	96	86	78	72	93	84	77	72	81	75	71	79	74	69	76	72	68	66
4	88	76	68	62	85	75	67	61	72	66	60	70	64	60	68	63	59	57
5	80	68	59	53	78	67	59	53	65	58	52	63	57	52	61	55	51	49
6	74	61	52	46	72	60	52	46	58	51	45	56	50	45	55	49	45	42
7	68	55	46	40	67	54	46	40	53	45	40	51	44	39	50	44	39	37
8	63	50	41	35	62	49	41	35	48	40	35	46	40	35	45	39	35	33
9	59	45	37	31	57	45	37	31	43	36	31	42	36	31	41	35	31	29
10	55	41	33	28	54	41	33	28	40	33	28	39	32	28	38	32	28	26

POLAR GRAPH



Maximum Candela = 13.5 Located At Horizontal Angle = 0, Vertical Angle = 40
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Vertical Plane Through Horizontal Angles (90 - 270)
3 - Horizontal Cone Through Vertical Angle (40) (Through Max. Cd.)