



8165 E Kaiser Blvd. Anaheim, CA 92808
p. 714.282.2270
f. 714.676.5558

Report No: L041502002

Date: 4/15/2015



NVLAP LAB CODE 200927-0

Report No: L041502002

Report Prepared For: Prudential Ltg.
1774 E. 21st Street, Los Angeles, CA 90058

Model Number: O-30-LED4-MO-D9

Test: Electrical and Photometric tests

Standards Used: Appropriate part or all test guidelines were used for test performed:
IESNA LM79: 2008 Approved Methods for Electrical and Photometric Measurements of Solid-State Lighting Products
ANSI NEMA ANSLG C78.377: 2008 Specification of the Chromaticity of Solid State Lighting Products
ANSI C82.77:2002: Harmonic Emission Limits-Related Quality Requirements for Lighting Equipment

Description of Sample: Client submitted the sample. Catalog number is O-30-LED4-MO-D9 . Received in working and undamaged condition. No modifications were necessary.

Testing Condition: Fixture is tested with no special conditions.

Sample Arrival Date: 4/9/15

Date of Tests: 4/10/15 - 4/15/15

Seasoning of Sample: No seasoning was performed in accordance with IESNA LM-79.

Equipment List

Equipment Used	Model No	Stock No	Calibration Due Date
Chroma Programmable AC Source	61604	PS-AC02	--
Yokogawa Digital Power Meter	WT210	MT-EL06-S1	11/10/15
Xitron Power Analysis System	2503AH	MT-EL01	10/20/15
BK Precision DC Power Supply	1747	PSDC-04	01/08/16
Fluke Digital Thermometer	52k/J	MT-TP02-GC	01/05/16
LLI Type C Goniophotometer System	RMG-C-MKII	CD-LL04-GC	--
LLI 2M Sphere	2MR97	CD-SN03-S2	--
LLI Spectroradiometer	SPR-3000	MT-SC01-S2	Before Use

*All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.

Test Summary

Manufacturer:	Prudential Ltg.
Model Number:	O-30-LED4-MO-D9
Driver Model Number:	OSRAM OPTOTRONIC OT25W/PRG1250C/UNV/DIM(2 DRIVERS)
Total Lumens:	3600.91
Input Voltage (VAC/60Hz):	120.00
Input Current (Amp):	0.49
Input Power (W):	58.65
Input Power Factor:	1.00
Current ATHD @ 120V(%):	6%
Current ATHD @ 277V(%):	N/A
Efficacy:	61
Ambient Temperature (°C):	25.0
Stabilization Time (Hours):	0:40
Total Operating Time (Hours):	3:10
Off State Power(W):	0.00

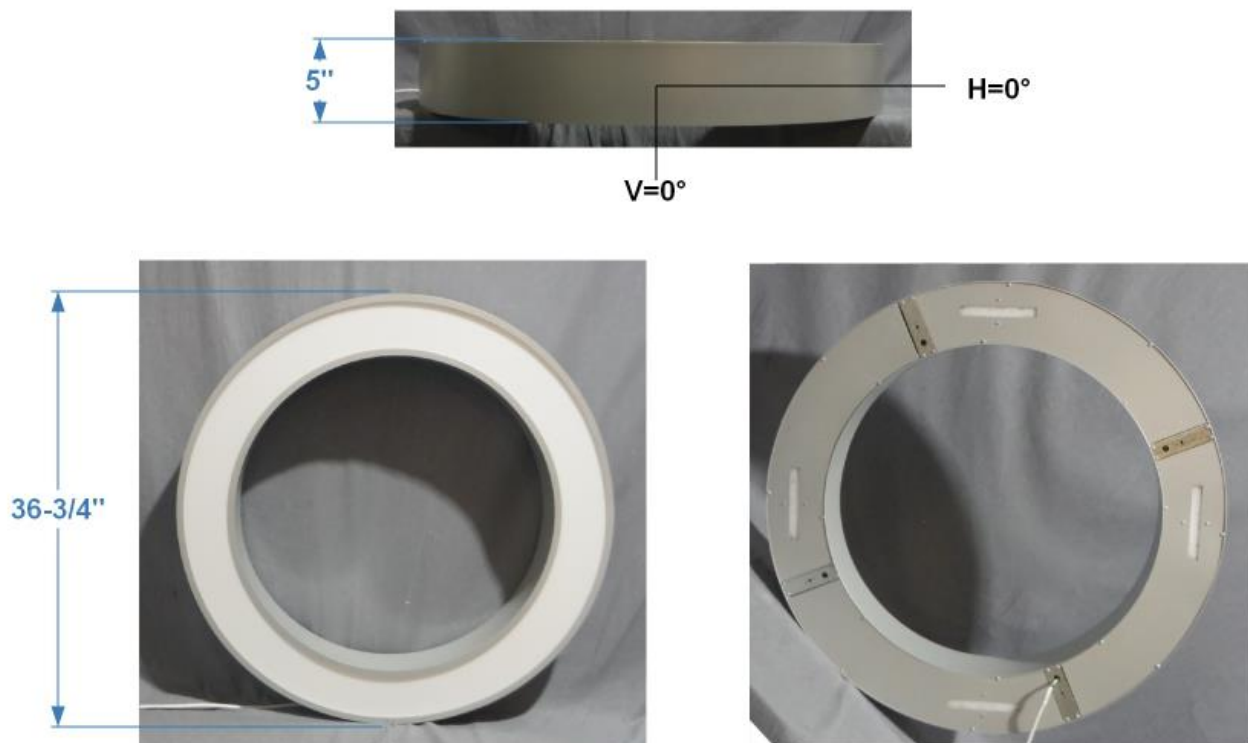


FIG.1 LUMINAIRE



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Test Methods

Photometric Measurements - Goniophotometer

A Custom Light Laboratory Type C Rotating Mirror Goniophotometer was used to measure candelas(intensity) at each angle of distribution as defined by IESNA for the appropriate fixture type.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Spectral Measurements - Integrating Sphere

A Sensing Spectroradiometer SPR-3000, in conjunction with Light Laboratory 2 meter integrating sphere was used to measure chromaticity coordinates, correlated color temperature(CCT) and the color rendering index(CRI) for each sample.

Ambient temperature is set to 25°C and is measured from the center of the fixture, within 1ft from the outside of the fixture. Temperature is maintained at 25°C throughout the testing process and the sample is stabilized for at least 30mins and longer as necessary for the sample to achieve stabilization.

Electrical measurements are measured using the listed equipment.

Disclaimers:

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST or any agency of Federal Government.

Report Prepared by : Keyur Patel

Test Report Released by:

Jeff Ahn
Engineering Manager

Test Report Reviewed by:

Steve Kang
Quality Assurance

**Attached are photometric data reports. Total number of pages: 10*

**All Results in accordance to IESNA LM-79-2008: Approved Method for the Electrical and Photometric Testing of Solid-State Lighting.*



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Photometric Test Report

IES INDOOR REPORT

PHOTOMETRIC FILENAME : L041502002.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] L041502002
[TESTLAB] LIGHT LABORATORY, INC.
[ISSUEDATE] 4/15/2015
[MANUFAC] PRUDENTIAL LTG.
[LUMCAT] O-30-LED4-MO-D9
[LUMINAIRE] 36-3/4"DIA. X 5"H. LED FIXTURE
[MORE] DIFFUSED LENS
[BALLASTCAT] OSRAM OPTOTRONIC OT25W/PRG1250C/UNV/DIM(2 DRIVERS)
[BALLAST] INPUT: 120-277VAC, 0.27-0.13A 50/60Hz OUTPUT: 25W, 10-55VDC, 350-1250mA
[LAMPPOSITION] 0,0
[LAMPCAT] N/A
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.
[INPUT] 120VAC, 58.65W
[TEST PROCEDURE] IESNA:LM-79-08

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	3601
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	61
Total Luminaire Watts	58.65
Ballast Factor	1.00
CIE Type	Semi-Direct
Spacing Criterion (0-180)	1.22
Spacing Criterion (90-270)	1.24
Spacing Criterion (Diagonal)	1.34
Basic Luminous Shape	Circular w/ Sides
Luminous Length (0-180)	3.00 ft (Diameter)
Luminous Width (90-270)	3.00 ft (Diameter)
Luminous Height	0.42 ft

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L041502002.IES

LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	1077	1078	1080
55	958	957	959
65	824	823	824
75	608	607	606
85	254	251	247

IES INDOOR REPORT
PHOTOMETRIC FILENAME : L041502002.IES

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	935.91	935.91	935.91	935.91	935.91	935.91	935.91	935.91	935.91	935.91
5	930.82	930.76	930.71	930.63	930.57	930.47	930.45	930.44	930.49	930.53
10	915.69	915.67	915.62	915.63	915.70	915.69	915.67	915.65	915.75	915.81
15	890.85	890.90	890.94	891.01	891.03	891.01	891.01	891.11	891.24	891.32
20	857.65	857.66	857.66	857.76	857.85	857.86	857.90	858.09	858.28	858.40
25	815.71	815.79	815.80	815.89	816.09	816.17	816.31	816.45	816.59	816.72
30	767.02	767.03	767.08	767.21	767.40	767.52	767.63	767.81	767.96	768.06
35	712.66	712.70	712.71	712.80	712.91	713.12	713.28	713.44	713.56	713.72
40	653.04	653.14	653.09	653.18	653.30	653.55	653.81	654.08	654.33	654.45
45	589.55	589.52	589.40	589.43	589.52	589.57	589.58	589.76	590.26	590.53
50	522.36	522.34	522.21	522.11	522.12	522.12	522.17	522.27	522.37	522.51
55	453.04	453.00	452.84	452.77	452.68	452.60	452.62	452.72	452.79	452.88
60	389.71	389.76	389.64	389.57	389.47	389.15	388.98	389.02	389.06	389.12
65	316.57	316.60	316.72	316.43	316.49	316.33	316.33	316.34	316.24	316.16
70	243.25	243.11	243.12	243.01	243.00	242.94	242.92	242.93	242.86	242.84
75	172.14	171.98	172.06	172.01	172.00	171.94	171.89	171.91	171.88	171.85
80	104.80	104.79	104.72	104.69	104.69	104.67	104.60	104.51	104.42	104.32
85	44.22	44.22	44.18	44.16	44.13	44.04	43.95	43.88	43.80	43.68
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	22.15	22.10	21.95	21.68	21.37	21.00	20.65	20.33	20.05	19.83
100	39.08	38.99	38.90	38.95	38.86	38.74	38.60	38.42	38.32	38.13
105	61.11	61.18	61.53	61.71	61.81	61.90	61.82	61.80	61.52	61.33
110	86.34	86.26	86.56	86.73	86.70	86.66	86.52	86.49	86.59	86.59
115	113.64	113.53	113.69	113.59	113.98	114.16	113.89	113.81	113.58	113.31
120	141.04	141.21	141.36	141.79	141.95	141.60	141.14	141.07	141.16	140.97
125	166.87	167.16	166.66	166.59	167.28	167.57	167.91	168.36	168.37	168.46
130	196.29	196.48	196.32	196.60	197.63	198.59	198.99	199.33	199.74	199.92
135	228.35	228.29	228.18	228.56	229.80	230.51	231.09	231.84	233.01	233.62
140	258.95	259.02	259.20	259.27	260.84	262.93	264.72	265.94	266.63	266.68
145	292.60	292.46	292.51	292.95	294.05	295.23	296.33	297.52	298.06	298.54
150	324.50	323.74	323.93	324.37	324.77	325.51	326.69	326.98	327.61	327.83
155	352.09	352.02	352.64	351.90	352.15	353.01	354.04	354.36	354.98	355.01
160	377.33	377.29	376.05	376.35	376.58	377.12	378.19	378.50	378.54	378.68
165	397.14	397.76	397.00	396.21	396.74	397.07	397.42	398.18	398.31	398.07
170	411.81	411.97	411.75	411.11	411.29	411.93	412.25	413.08	413.04	412.60
175	419.61	419.40	419.36	419.80	420.20	421.22	421.58	422.16	422.21	421.44
180	423.98	423.98	423.98	423.98	423.98	423.98	423.98	423.98	423.98	423.98

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	935.91	935.91	935.91	935.91	935.91	935.91	935.91	935.91	935.91
5	930.59	930.61	930.65	930.73	930.77	930.76	930.82	930.88	931.00
10	915.85	915.93	916.00	916.06	916.12	916.12	916.17	916.28	916.38
15	891.46	891.60	891.69	891.81	891.89	891.84	891.84	891.91	891.97
20	858.56	858.67	858.74	858.83	858.92	858.95	859.03	859.02	858.96
25	816.89	817.03	817.17	817.22	817.30	817.35	817.42	817.38	817.34
30	768.25	768.37	768.53	768.64	768.73	768.79	768.79	768.83	768.81
35	713.83	713.99	714.21	714.30	714.44	714.48	714.46	714.48	714.40
40	654.62	654.77	654.89	655.06	655.17	655.22	655.19	655.16	655.07
45	590.72	590.85	590.98	591.08	591.22	591.29	591.29	591.21	591.20
50	522.80	523.06	523.24	523.38	523.46	523.61	523.61	523.51	523.58
55	452.97	453.09	453.28	453.39	453.52	453.65	453.73	453.70	453.68
60	389.21	389.28	389.39	389.45	389.54	389.67	389.79	389.69	389.66

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CANDELA TABULATION - (Cont.)

65	316.19	316.25	316.32	316.38	316.37	316.39	316.46	316.38	316.35
70	242.81	242.89	242.94	242.92	242.97	242.89	242.96	242.87	242.71
75	171.83	171.87	171.86	171.85	171.88	171.88	171.93	171.85	171.74
80	104.26	104.25	104.23	104.21	104.22	104.24	104.28	104.17	104.01
85	43.58	43.53	43.45	43.37	43.27	43.18	43.16	43.00	42.96
90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
95	19.72	19.74	19.84	19.85	19.99	20.17	20.22	19.81	19.64
100	38.03	37.96	37.98	37.93	38.00	38.01	37.77	37.16	37.11
105	61.51	61.53	61.54	61.34	61.01	60.84	60.34	59.62	59.53
110	86.55	86.49	86.43	86.16	86.00	85.78	85.15	84.86	84.75
115	113.55	113.52	113.38	113.57	113.35	112.72	112.38	111.91	111.73
120	141.28	141.45	141.67	141.74	141.44	140.72	140.30	140.05	139.56
125	168.67	169.05	169.14	169.08	168.79	167.90	167.66	167.51	166.93
130	200.54	200.77	200.66	200.37	199.64	199.20	198.88	198.77	198.48
135	233.95	233.87	233.60	233.12	232.51	231.88	231.65	231.63	231.47
140	266.72	266.58	265.96	265.33	264.50	263.30	263.20	262.94	262.54
145	298.20	297.71	296.96	296.55	296.26	295.68	295.43	295.28	295.20
150	327.91	327.56	327.16	326.65	326.13	326.19	325.71	326.07	326.52
155	355.12	354.99	354.80	354.22	353.30	353.11	353.54	352.74	352.94
160	378.81	378.79	378.54	377.72	377.18	377.11	376.50	378.11	377.65
165	398.28	398.17	397.33	397.01	396.74	395.86	396.72	397.73	397.22
170	412.98	412.67	412.16	411.74	411.22	411.17	411.14	411.07	411.00
175	422.24	421.96	421.54	420.97	420.06	419.76	419.41	418.81	419.15
180	423.98	423.98	423.98	423.98	423.98	423.98	423.98	423.98	423.98

IES INDOOR REPORT
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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	339.78	N.A.	9.40
0-30	716.01	N.A.	19.90
0-40	1162.43	N.A.	32.30
0-60	2024.74	N.A.	56.20
0-80	2520.32	N.A.	70.00
0-90	2572.52	N.A.	71.40
10-90	2484.15	N.A.	69.00
20-40	822.65	N.A.	22.80
20-50	1278.03	N.A.	35.50
40-70	1175.51	N.A.	32.60
60-80	495.58	N.A.	13.80
70-80	182.38	N.A.	5.10
80-90	52.20	N.A.	1.40
90-110	86.77	N.A.	2.40
90-120	199.19	N.A.	5.50
90-130	350.40	N.A.	9.70
90-150	713.93	N.A.	19.80
90-180	1028.39	N.A.	28.60
110-180	941.63	N.A.	26.10
0-180	3600.91	N.A.	100.00

Total Luminaire Efficiency = N.A.%

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	88.37
10-20	251.41
20-30	376.23
30-40	446.42
40-50	455.38
50-60	406.93
60-70	313.20
70-80	182.38
80-90	52.20
90-100	21.59
100-110	65.18
110-120	112.42
120-130	151.21
130-140	178.63
140-150	184.90
150-160	162.71
160-170	111.87
170-180	39.88

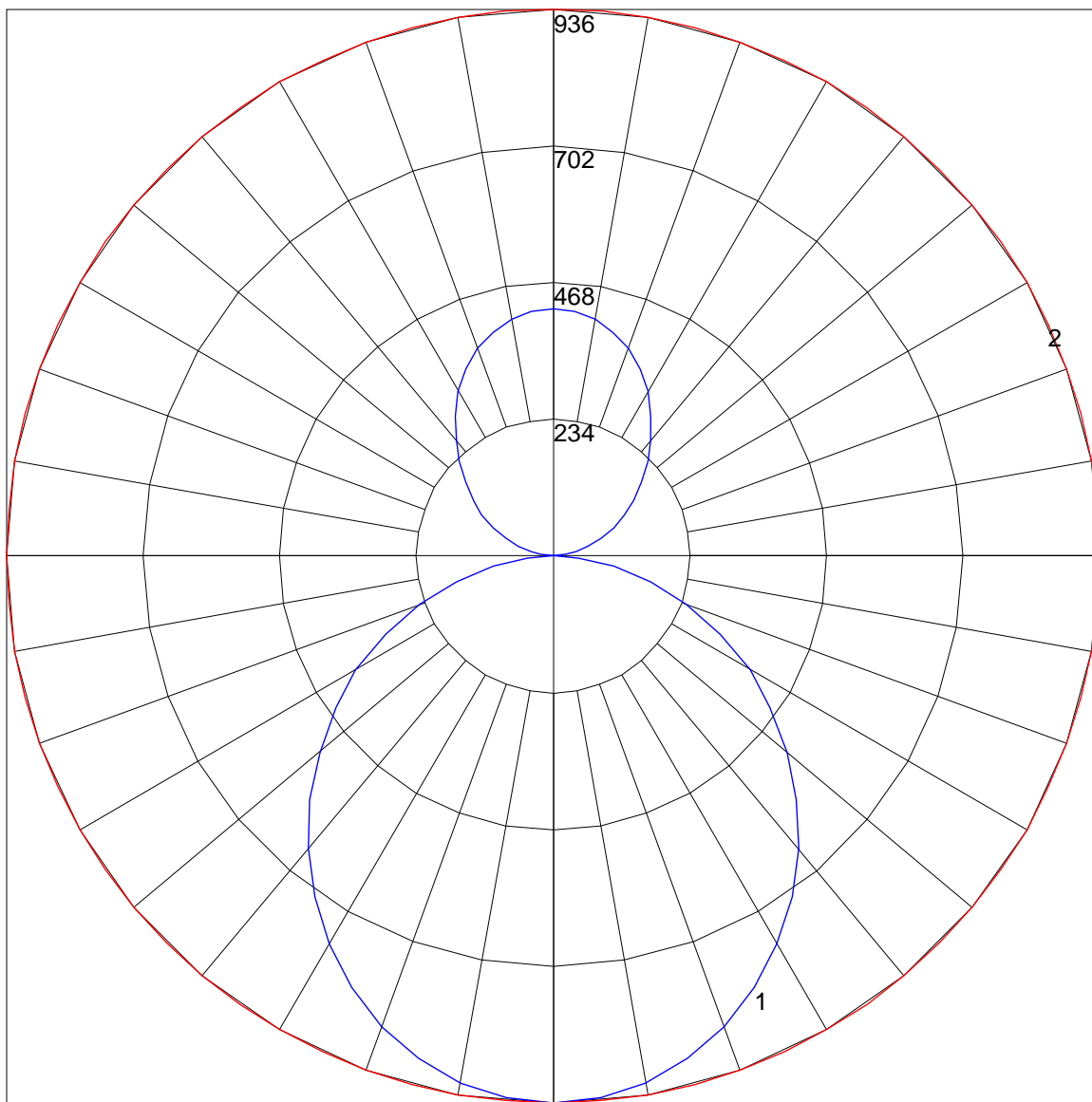
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	76	76	76	71
1	102	98	94	90	97	93	89	86	83	81	78	75	73	71	67	65	64	60
2	93	85	79	73	88	81	75	70	73	68	64	65	62	59	58	56	53	50
3	85	75	67	61	80	71	64	58	64	58	54	58	53	49	52	48	45	42
4	78	66	58	51	73	63	55	50	57	51	46	51	46	42	46	42	39	36
5	71	59	50	44	67	56	48	43	51	45	40	46	41	37	41	37	34	31
6	66	53	44	38	62	51	43	37	46	39	35	42	36	32	38	33	30	27
7	61	48	40	34	57	46	38	33	42	35	31	38	32	28	34	30	26	24
8	57	44	36	30	53	42	34	29	38	32	27	35	29	25	31	27	24	21
9	53	40	32	27	50	38	31	26	35	29	24	32	27	23	29	25	21	19
10	49	37	29	24	47	35	28	23	32	26	22	30	24	21	27	23	19	17

POLAR GRAPH



Maximum Candela = 935.91 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.)