



8165 E Kaiser Blvd. Anaheim, CA 92808  
www.lightlaboratory.com

Report No: L121706424



**Report No:** L121706424 **Issue Date:** 1/10/2018

**Report Prepared For:** Number Eight Lighting Company  
526 Portal Street, Cotati, CA 94931

**Model Number:** 804/J2-HI-40/DIM1-8-1400 with FS-P-1-WH trim (35° Aiming Angle)

**Test:** Photometric/Electrical Test

**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. Received in working and undamaged condition. No modifications were necessary.

**Testing Condition:** Fixture is tested with no special conditions.

**Sample Arrival Date:** 1/2/18

**Date of Tests:** 1/5/18 - 1/10/18

**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-S4	1/9/19
BK PRECISION	1747	PS-DC04	1/10/19
Fluke Digital Thermometer	52K/J	MT-TP05	1/10/19
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**

<b>Manufacturer:</b>	Number Eight Lighting Company
<b>Model Number:</b>	804/J2-HI-40/DIM1-8-1400 with FS-P-1-WH trim (35° Aiming Angle)
<b>Driver Model Number:</b>	IntuitiveSystems ISD-701-1400-20-D
<b>Total Lumens:</b>	919.59
<b>Input Voltage (VAC/60Hz):</b>	120.00
<b>Input Current (Amp):</b>	0.17
<b>Input Power (W):</b>	20.47
<b>Input Power Factor:</b>	0.99
<b>Current ATHD @ 120V(%):</b>	8%
<b>Current ATHD @ 277V(%):</b>	N/A
<b>Efficacy:</b>	45
<b>Ambient Temperature (°C):</b>	25.0
<b>Stabilization Time (Hours):</b>	0:40
<b>Total Operating Time (Hours):</b>	1:15

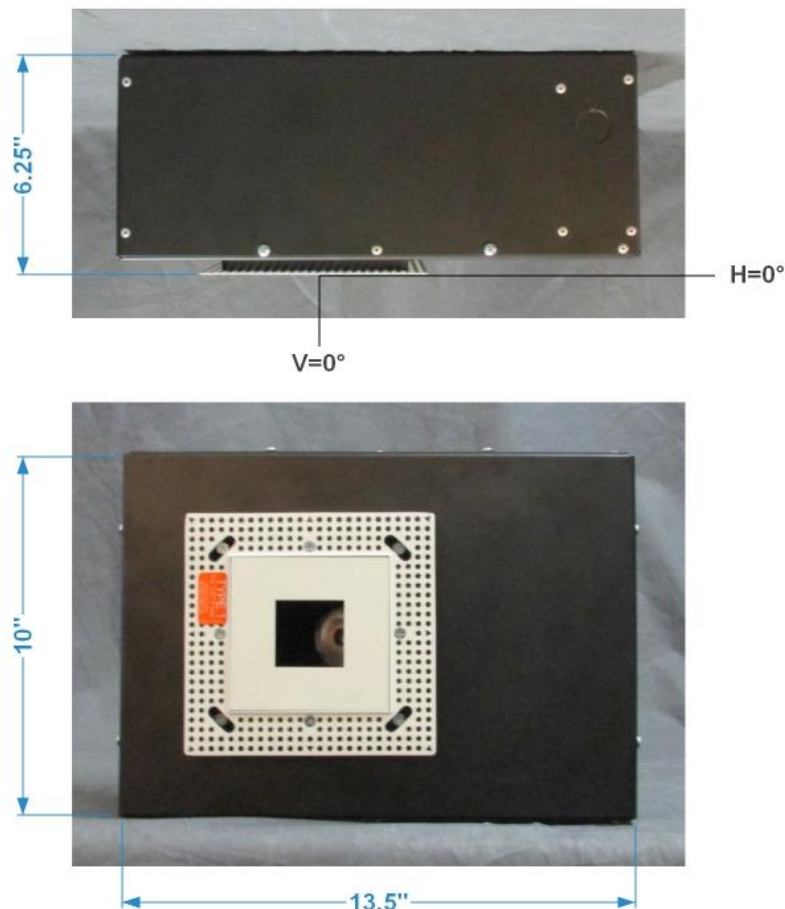


FIG. 1 LUMINAIRE

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

## 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 :                     Joseph Shin                    

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*



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# Photometric Test Report

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121706424.IES**

## DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002  
[TEST] L121706424  
[TESTLAB] LIGHT LABORATORY, INC. (www.lightlaboratory.com)  
[ISSUEDATE] 1/10/2018  
[MANUFAC] Number Eight Lighting Company  
[LUMCAT] 804/J2-HI-40/DIM1-8-1400 with FS-P-1-WH trim (35° Aiming Angle)  
[LUMINAIRE] LED Recessed Downlight, 40° Beam Spread, 35° Aiming Angle,  
[MORE] 1.75" x 1.75" Aperture Trim  
[BALLASTCAT] IntuitiveSystems ISD-701-1400-20-D  
[OTHER] INDICATING THE CANDELA VALUES ARE ABSOLUTE AND  
[MORE] SHOULD NOT BE FACTORED FOR DIFFERENT LAMP RATINGS.  
[INPUT] 120VAC, 20.47W  
[TEST PROCEDURE] IESNA:LM-79-08

## CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	920
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	45
Total Luminaire Watts	20.47
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	0.20
Spacing Criterion (90-270)	0.72
Spacing Criterion (Diagonal)	1.48
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	0.15 ft
Luminous Width (90-270)	0.15 ft
Luminous Height	0.00 ft

## LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	0	0	4731
55	0	0	0
65	0	0	0
75	0	0	0
85	0	0	0

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>
<b>0</b>	198	198	198	198	198	198	198	198	198	198
<b>5</b>	106	106	107	108	110	112	115	119	123	128
<b>10</b>	53	53	54	55	57	60	63	66	71	76
<b>15</b>	25	25	25	26	28	30	32	35	39	43
<b>17</b>	16	16	16	17	19	21	23	26	29	34
<b>19</b>	9	9	9	10	12	13	15	18	21	25
<b>21</b>	4	5	5	5	6	7	9	12	15	18
<b>23</b>	2	2	2	2	3	4	5	7	9	12
<b>25</b>	1	1	1	1	1	2	2	4	5	7
<b>27</b>	0	0	0	0	0	1	1	2	3	4
<b>29</b>	0	0	0	0	0	0	0	1	1	2
<b>31</b>	0	0	0	0	0	0	0	0	0	1
<b>33</b>	0	0	0	0	0	0	0	0	0	0
<b>34</b>	0	0	0	0	0	0	0	0	0	0
<b>35</b>	0	0	0	0	0	0	0	0	0	0
<b>36</b>	0	0	0	0	0	0	0	0	0	0
<b>37</b>	0	0	0	0	0	0	0	0	0	0
<b>39</b>	0	0	0	0	0	0	0	0	0	0
<b>41</b>	0	0	0	0	0	0	0	0	0	0
<b>43</b>	0	0	0	0	0	0	0	0	0	0
<b>45</b>	0	0	0	0	0	0	0	0	0	0
<b>47</b>	0	0	0	0	0	0	0	0	0	0
<b>49</b>	0	0	0	0	0	0	0	0	0	0
<b>51</b>	0	0	0	0	0	0	0	0	0	0
<b>53</b>	0	0	0	0	0	0	0	0	0	0
<b>55</b>	0	0	0	0	0	0	0	0	0	0
<b>60</b>	0	0	0	0	0	0	0	0	0	0
<b>65</b>	0	0	0	0	0	0	0	0	0	0
<b>70</b>	0	0	0	0	0	0	0	0	0	0
<b>75</b>	0	0	0	0	0	0	0	0	0	0
<b>80</b>	0	0	0	0	0	0	0	0	0	0
<b>85</b>	0	0	0	0	0	0	0	0	0	0
<b>90</b>	0	0	0	0	0	0	0	0	0	0

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>
<b>0</b>	198	198	198	198	198	198	198	198	198	198
<b>5</b>	134	139	146	152	160	167	176	185	194	204
<b>10</b>	82	90	99	108	119	131	144	158	175	193
<b>15</b>	48	54	62	71	82	95	109	127	146	171
<b>17</b>	38	44	51	59	69	82	98	115	135	160
<b>19</b>	30	35	41	49	59	70	84	101	123	149
<b>21</b>	22	27	33	40	49	59	72	89	109	137
<b>23</b>	16	21	25	32	39	49	61	77	98	123
<b>25</b>	11	14	19	25	31	40	51	65	83	107
<b>27</b>	6	10	14	19	25	32	42	54	71	95
<b>29</b>	4	6	10	14	19	26	34	45	61	81
<b>31</b>	2	3	6	10	14	20	27	37	49	68
<b>33</b>	1	2	4	6	10	15	21	30	41	57
<b>34</b>	1	1	3	5	8	13	18	26	37	51
<b>35</b>	0	1	2	4	7	11	16	23	32	46
<b>36</b>	0	1	1	3	5	9	14	21	30	42
<b>37</b>	0	0	1	2	5	8	12	18	26	38

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121706424.IES**

**CANDELA TABULATION - (Cont.)**

39	0	0	0	1	3	5	8	13	20	30
41	0	0	0	1	1	3	6	9	15	24
43	0	0	0	0	1	2	4	6	11	17
45	0	0	0	0	0	1	2	4	7	13
47	0	0	0	0	0	0	1	3	5	9
49	0	0	0	0	0	0	1	1	3	6
51	0	0	0	0	0	0	0	1	1	3
53	0	0	0	0	0	0	0	0	1	1
55	0	0	0	0	0	0	0	0	0	1
60	0	0	0	0	0	0	0	0	0	0
65	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0
75	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0

Vert. Angles	Horizontal 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	198	198	198	198	198	198	198	198	198	198
5	215	226	237	249	262	275	287	300	311	321
10	213	238	265	295	324	357	388	420	452	482
15	200	237	277	322	372	424	485	546	612	676
17	191	228	271	325	382	451	518	589	666	749
19	181	220	267	327	390	466	543	628	717	825
21	169	210	260	320	389	470	563	661	782	900
23	156	198	250	319	392	480	575	687	805	951
25	139	179	237	307	384	471	572	690	831	995
27	126	166	218	283	365	463	568	695	850	1021
29	110	147	196	263	342	442	553	688	838	1032
31	94	128	177	237	313	405	526	664	837	1044
33	79	110	154	209	280	377	492	631	808	1011
34	72	102	143	195	264	359	471	612	773	996
35	65	93	133	183	248	333	448	587	763	992
36	60	85	123	169	232	314	428	563	736	952
37	54	78	113	157	216	302	406	525	691	923
39	44	65	94	132	182	262	359	483	639	871
41	36	53	79	114	159	221	316	422	566	758
43	27	41	63	94	136	191	266	370	503	684
45	21	33	50	75	112	161	226	322	449	596
47	15	25	40	62	93	135	199	271	383	521
49	10	17	29	48	76	115	166	235	326	444
51	6	12	21	35	57	89	134	202	276	371
53	3	6	12	23	41	69	107	159	231	307
55	1	3	6	14	28	51	86	133	189	253
60	0	0	1	2	5	12	29	59	104	141
65	0	0	0	0	0	0	3	12	28	53
70	0	0	0	0	0	0	0	0	1	7
75	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0

**IES INDOOR REPORT  
PHOTOMETRIC FILENAME : L121706424.IES**

**CANDELA TABULATION - (Cont.)**

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	198	198	198	198	198	198	198
5	330	337	344	348	352	354	355
10	512	539	562	580	593	602	606
15	741	804	862	913	948	971	977
17	833	914	990	1048	1096	1124	1133
19	934	1029	1114	1187	1246	1282	1296
21	1020	1133	1236	1327	1388	1423	1432
23	1091	1221	1337	1431	1499	1538	1549
25	1166	1309	1428	1530	1599	1645	1655
27	1195	1354	1498	1601	1684	1732	1751
29	1236	1408	1548	1660	1748	1803	1822
31	1245	1430	1579	1712	1803	1857	1869
33	1221	1419	1591	1738	1837	1888	1902
34	1226	1425	1590	1730	1837	1893	1906
35	1212	1417	1582	1735	1841	1897	1913
36	1174	1389	1559	1724	1832	1889	1905
37	1165	1384	1556	1701	1812	1876	1900
39	1100	1331	1523	1668	1775	1846	1870
41	1010	1239	1436	1603	1711	1784	1810
43	931	1156	1367	1518	1628	1699	1726
45	800	1025	1241	1398	1512	1577	1599
47	689	916	1106	1254	1360	1427	1447
49	594	789	961	1098	1199	1262	1280
51	487	636	796	924	1018	1061	1076
53	400	519	653	748	808	859	875
55	332	431	532	622	687	727	740
60	185	238	295	355	405	438	450
65	80	107	139	166	189	204	209
70	14	21	27	31	34	36	37
75	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0
85	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0

**IES INDOOR REPORT**  
**PHOTOMETRIC FILENAME : L121706424.IES**

**ZONAL LUMEN SUMMARY**

Zone	Lumens	%Lamp	%Fixt
0-20	97.52	N.A.	10.60
0-30	276.34	N.A.	30.10
0-40	524.56	N.A.	57.00
0-60	885.08	N.A.	96.20
0-80	919.59	N.A.	100.00
0-90	919.59	N.A.	100.00
10-90	898.11	N.A.	97.70
20-40	427.04	N.A.	46.40
20-50	655.39	N.A.	71.30
40-70	393.66	N.A.	42.80
60-80	34.52	N.A.	3.80
70-80	1.38	N.A.	0.20
80-90	0.00	N.A.	0.00
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	919.59	N.A.	100.00

Total Luminaire Efficiency = N.A.%

**ZONAL LUMEN SUMMARY**

Zone	Lumens
0-10	21.48
10-20	76.04
20-30	178.82
30-40	248.22
40-50	228.35
50-60	132.17
60-70	33.14
70-80	1.38
80-90	0.00
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



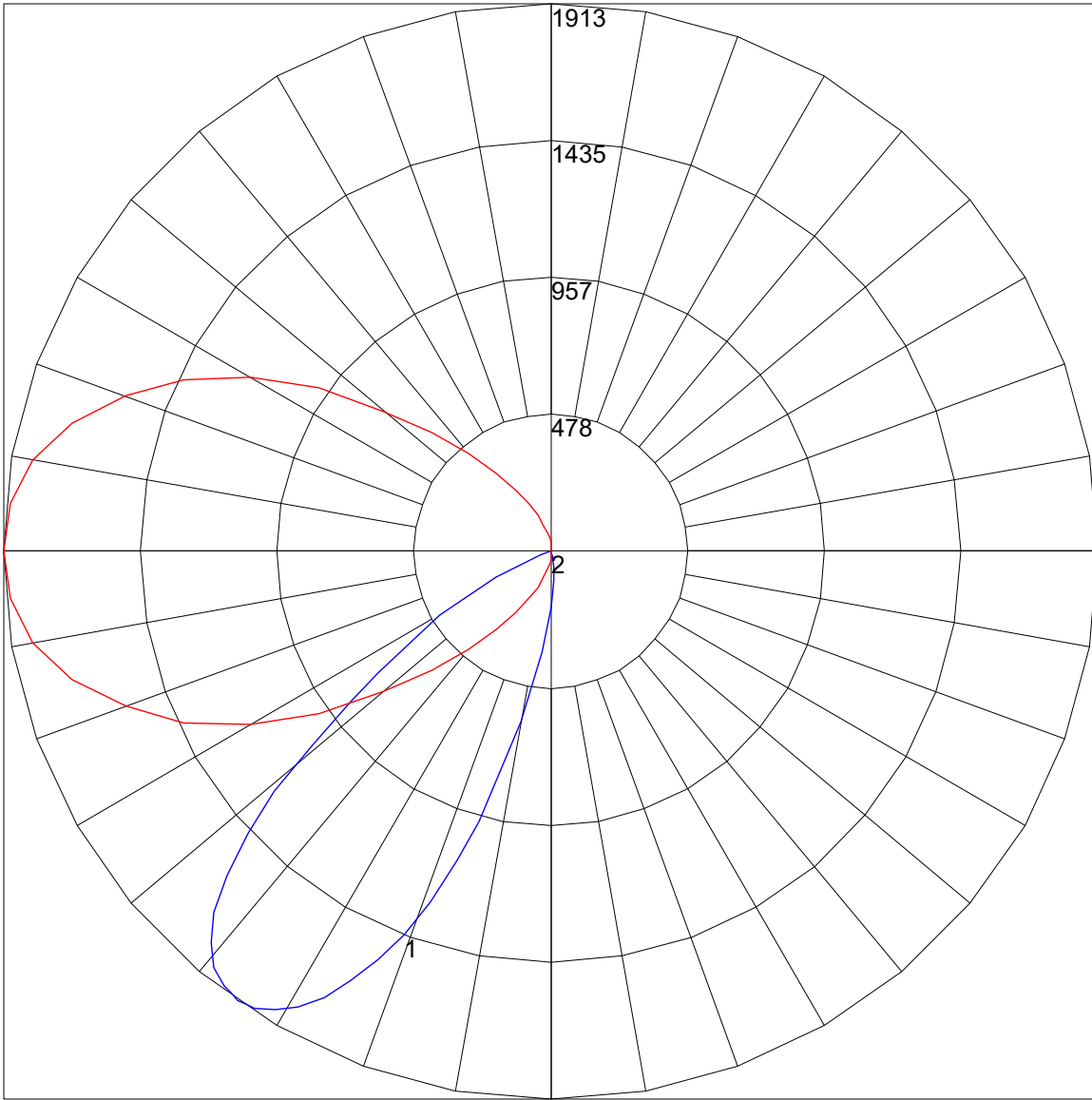
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**COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD**

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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	111	108	104	101	109	105	102	100	101	99	97	97	96	94	94	92	91	89
2	103	96	91	86	101	95	89	85	91	87	83	88	84	81	85	82	80	78
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67
4	88	77	69	63	85	76	69	63	73	67	62	71	66	61	69	64	61	59
5	81	69	61	55	79	68	60	55	66	59	54	64	58	54	62	57	53	51
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	69	56	48	42	67	56	48	42	54	47	42	53	46	42	51	46	41	40
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	58	46	39	33	45	38	33	44	38	33	43	37	33	31
10	56	43	35	30	54	42	35	30	41	35	30	40	34	30	40	34	30	28

POLAR GRAPH



Maximum Candela = 1913 Located At Horizontal Angle = 180, Vertical Angle = 35  
# 1 - Vertical Plane Through Horizontal Angles (180 - 0) (Through Max. Cd.)  
# 2 - Horizontal Cone Through Vertical Angle (35) (Through Max. Cd.)