

# itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.  
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REPORT NUMBER: ITL60021

DATE: 03/13/08

PREPARED FOR: KINO FLO LIGHTING SYSTEMS

CATALOG NUMBER: CFX-9601

LUMINAIRE: FABRICATED CORRUGATED BLACK PLASTIC ADJUSTABLE HOUSING WITH WHITE UPPER INTERIOR, FORMED MULTI-FACETED SPECULAR METAL REFLECTOR, OPEN BOTTOM. ADJUSTABLE HOUSING ADJUSTED AS SHOWN IN DRAWING.

LAMP: ONE 120-WATT T-12 KINO FLO KF29 F120T12/HO/800 LINEAR FLUORESCENT, LAMP ENCASED IN CLEAR PLASTIC PROTECTIVE SLEEVE.

BALLAST: KINO FLO INCORPORATED BAL-105M

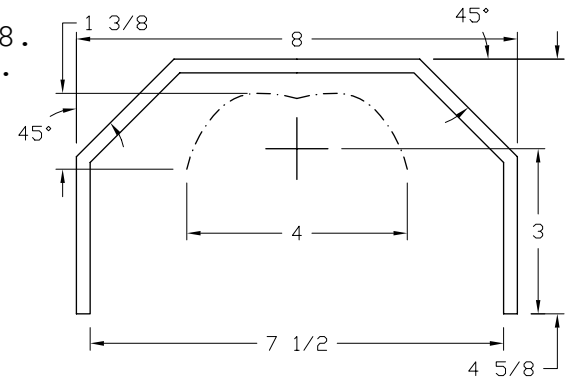
NOTE: THE LAMP UTILIZED FOR THIS TEST WAS NOT CHECKED FOR LIGHT OUTPUT SYMMETRY, AS IS STANDARD PRACTICE PER IESNA LM-41-98.

THE 0 DEGREE PLANE IS PARALLEL WITH THE LAMP.

TOTAL INPUT WATTS = 114.9 AT 120.0 VOLTS

LUMEN TO CANDELA RATIO USED = 9.24

REPORT IS BASED ON 5660 LUMENS PER LAMP.



CANDELA DISTRIBUTION						FLUX
	0.0	22.5	45.0	67.5	90.0	
0	1337	1337	1337	1337	1337	
5	1325	1324	1339	1349	1357	128
15	1271	1291	1314	1335	1345	372
25	1173	1208	1258	1307	1324	579
35	1030	1082	1169	1222	1238	720
45	847	928	1022	1008	968	743
55	634	745	726	567	490	580
65	393	505	284	109	58	287
75	169	164	13	12	11	78
85	28	13	4	3	2	10
90	0	0	0	0	0	

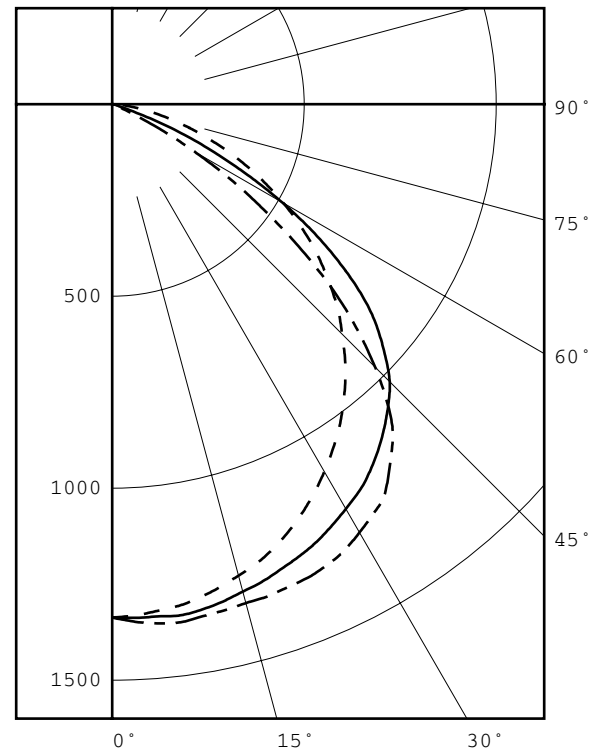
ZONAL LUMEN SUMMARY			
ZONE	LUMENS	%LAMP	%FIXT
0- 30	1079	19.1	30.9
0- 40	1799	31.8	51.5
0- 60	3122	55.2	89.3
0- 90	3496	61.8	100.0
90-180	0	0.0	0.0
0-180	3496	61.8	100.0

TOTAL LUMINAIRE EFFICIENCY = 61.8 %

CIE TYPE - DIRECT

PLANE	: 0-DEG	90-DEG	
SPACING CRITERIA	: 1.2	1.4	
SHIELDING ANGLES	: 0	32	
BEAM ANGLE (50%)	: 105.8	X 102.6	DEGREES
FIELD ANGLE (10%)	: 153.6	X 125.4	DEGREES
LUMINOUS LENGTH	: 97.000	7.500	

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	2552.	3079.	2917.
55	2355.	2697.	1820.
65	1981.	1432.	292.
75	1391.	107.	91.
85	684.	98.	49.



LEGEND:  
0-deg: - - - - -  
45-deg: \_\_\_\_\_  
90-deg: - . - . - .

Checked N. WHITE

Approved R. BEATTIE



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CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0.0	1337	1337	1337	1337	1337
2.5	1333	1328	1339	1343	1349
5.0	1325	1324	1339	1349	1357
7.5	1318	1321	1343	1355	1361
10.0	1305	1313	1337	1349	1354
12.5	1289	1303	1327	1342	1350
15.0	1271	1291	1314	1335	1345
17.5	1253	1276	1303	1331	1344
20.0	1230	1257	1288	1325	1338
22.5	1203	1233	1274	1316	1334
25.0	1173	1208	1258	1307	1324
27.5	1140	1179	1238	1294	1310
30.0	1105	1148	1217	1273	1288
32.5	1068	1117	1196	1251	1265
35.0	1030	1082	1169	1222	1238
37.5	988	1046	1137	1190	1188
40.0	944	1010	1102	1141	1137
42.5	897	970	1064	1083	1063
45.0	847	928	1022	1008	968
47.5	799	886	963	916	863
50.0	745	842	899	806	748
52.5	690	794	822	696	620
55.0	634	745	726	567	490
57.5	575	689	623	445	370
60.0	515	633	511	324	249
62.5	453	573	394	216	142
65.0	393	505	284	109	58
67.5	333	435	185	45	22
70.0	273	345	86	14	13
72.5	220	258	28	13	13
75.0	169	164	13	12	11
77.5	123	88	12	10	10
80.0	82	30	10	7	7
82.5	51	18	7	5	4
85.0	28	13	4	3	2
87.5	10	6	2	1	1
90.0	0	0	0	0	0

ZONAL	LUMEN	SUMMARY
0-	5	32.
5-	10	96.
10-	15	157.
15-	20	215.
20-	25	267.
25-	30	312.
30-	35	348.
35-	40	372.
40-	45	379.
45-	50	363.
50-	55	323.
55-	60	258.
60-	65	180.
65-	70	107.
70-	75	54.
75-	80	24.
80-	85	8.
85-	90	2.



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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	74	74	74	74	72	72	72	72	69	69	69	66	66	66	63	63	63	63	62
1	68	66	64	62	67	64	62	61	62	60	59	59	58	57	57	56	55	55	54
2	63	58	55	52	61	57	54	51	55	52	50	53	51	49	51	49	48	48	46
3	58	52	47	44	56	51	47	43	49	45	42	47	44	42	46	43	41	41	40
4	53	46	41	37	52	45	41	37	44	40	37	42	39	36	41	38	36	36	34
5	49	41	36	32	48	41	36	32	39	35	32	38	35	32	37	34	31	31	30
6	45	37	32	28	44	37	32	28	36	31	28	35	31	28	34	30	28	28	26
7	42	34	29	25	41	33	29	25	33	28	25	32	28	25	31	27	25	25	23
8	39	31	26	22	38	31	26	22	30	25	22	29	25	22	28	25	22	22	21
9	36	28	24	20	36	28	23	20	27	23	20	27	23	20	26	22	20	20	19
10	34	26	21	18	33	26	21	18	25	21	18	25	21	18	24	21	18	18	17

ALL CANDELA, LUMENS, LUMINANCE, COEFFICIENT OF UTILIZATION AND VCP VALUES IN THIS REPORT ARE BASED ON RELATIVE PHOTOMETRY WHICH ASSUMES A BALLAST FACTOR OF 1.000. ANY CALCULATIONS PREPARED FROM THESE DATA SHOULD INCLUDE AN APPROPRIATE BALLAST FACTOR.