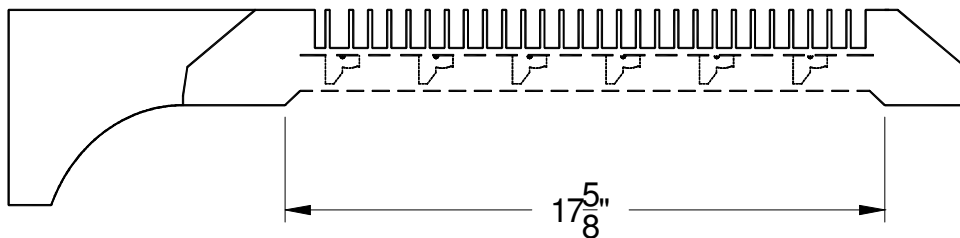




INDEPENDENT TEST LABORATORY REPORT No. 29830

SOL INC - LED ROADWAY LUMINAIRE, CAT# 10/10 TYPE 2
WITH SEMI-SPECULAR REFLECTOR AND CLEAR GLASS FLAT LENS
TWENTY FOUR LEDS WITH INDIVIDUAL LENSES. LUMINAIRE OUTPUT: 3893 Lms.
LUMINAIRE OPERATING AT 9.3 VDC AND 75.1 WATTS

IESNA CUTOFF CLASSIFICATION: SEMICUTOFF



PREPARED FOR:

SOL INC
PALM CITY, FL

DATE: NOV 18, 2011

CERTIFIED BY:

Ryder Trumey

LABORATORY RESULTS MAY NOT BE REPRESENTATIVE OF FIELD PERFORMANCE.
BALLAST FACTORS HAVE NOT BEEN APPLIED

TESTED IN 30 PLANES LEFT SIDE, 30 PLANES RIGHT SIDE, LEFT AND RIGHT AVERAGED

VERTICAL TEST INCREMENTS ARE 2.5 DEGREES.

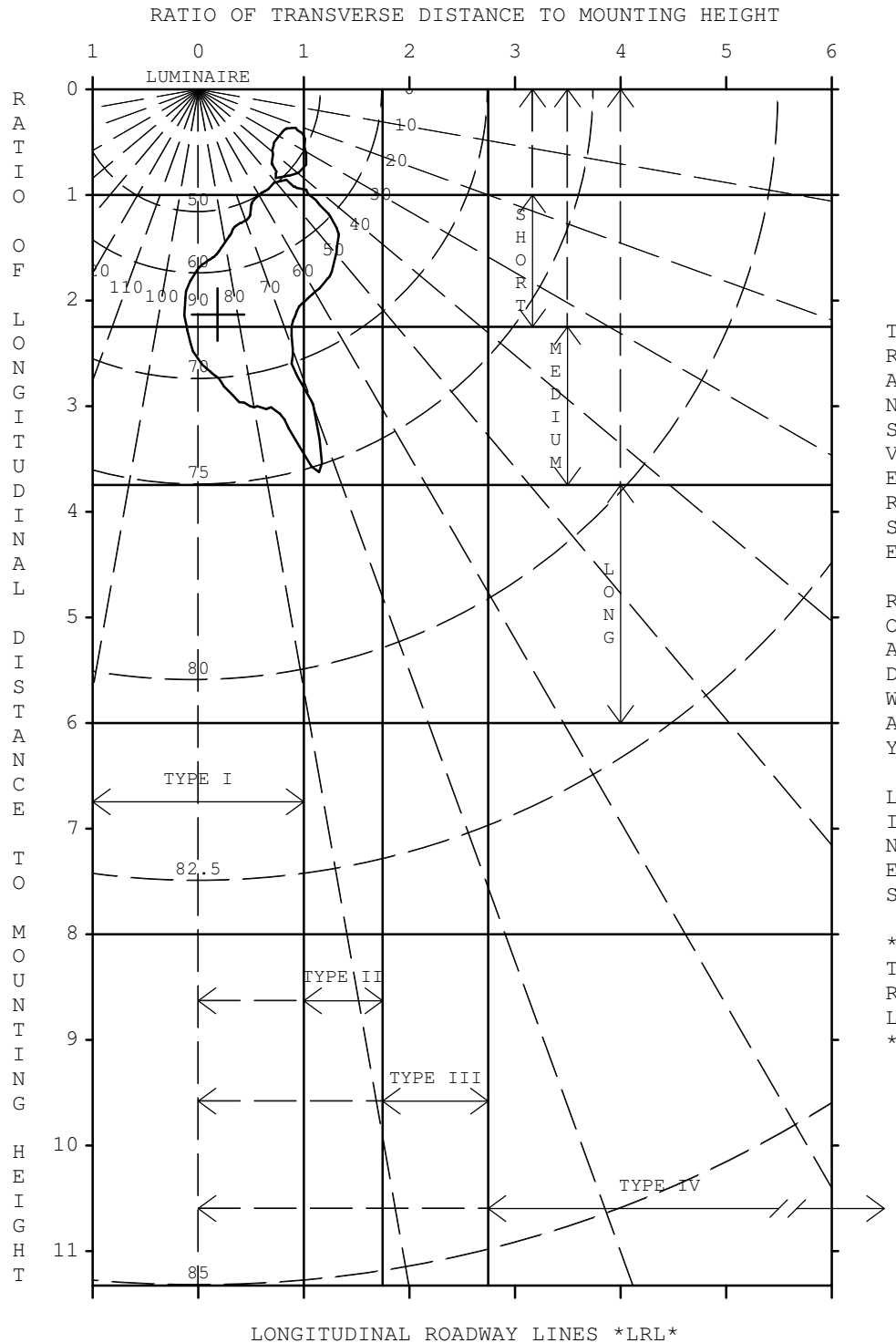
TEST DISTANCE EXCEEDS FIVE TIMES THE GREATEST
LUMINOUS OPENING OF LUMINAIRE.

LIGHTING SCIENCES, INC.

7826 E. EVANS RD.
SCOTTSDALE, AZ, USA 85260

CERTIFIED TEST REPORT NO.29830

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IES ROADWAY CLASSIFICATION: TYPE II, SHORT

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*** THIS IS AN ABSOLUTE TEST REPORT ***

UTILIZATION TABLE

CO-EFFICIENT OF UTILIZATION

RATIO	HOUSE SIDE	STREET SIDE	TOTAL
0.5	0.109	0.232	0.341
1.0	0.178	0.510	0.688
1.5	0.223	0.650	0.874
2.0	0.247	0.692	0.939
2.5	0.259	0.704	0.963
3.0	0.266	0.708	0.974
3.5	0.271	0.711	0.983
4.0	0.274	0.713	0.986
5.0	0.277	0.715	0.992
TOTAL:	0.282	0.718	1.000

PERCENTAGE OUTPUTS

DOWNWARD:	STREET SIDE =	71.8%
	HOUSE SIDE =	28.2%
	TOTAL =	100.0%
UPWARD:	STREET SIDE =	0.0%
	HOUSE SIDE =	0.0%
	TOTAL =	0.0%

EFFICACY (LUMENS PER WATT) 51.8

THE ABOVE COEFFICIENTS HAVE BEEN CALCULATED BASED ON LUMINAIRE LUMENS
BECAUSE IN AN ABSOLUTE TEST THE BARE LAMP LUMENS ARE UNKNOWN.
LIGHTING DESIGN CALCULATIONS MADE USING THESE COEFFICIENTS SHOULD
THEREFORE USE THE LUMINAIRE LUMENS IN THE CALCULATION FORMULA

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ZONAL LUMEN SUMMARY PER IES PUBLICATION TM-15-07

*** THIS IS AN ABSOLUTE TEST REPORT ***

FORWARD LIGHT:

LUMENS	2793.9
% LUMENS	71.8 %
FORWARD LOW ZONE (0 TO 30 DEGREES)	6.1 %
FORWARD MID ZONE (30 TO 60 DEGREES)	41.6 %
FORWARD HIGH ZONE (60 TO 80 DEGREES)	23.5 %
FORWARD VERY HIGH ZONE (80 TO 90 DEGREES)	0.6 %

BACK LIGHT:

LUMENS	1099.5
% LUMENS	28.2 %
BACK LIGHT LOW ZONE (0 TO 30 DEGREES)	4.1 %
BACK LIGHT MID ZONE (30 TO 60 DEGREES)	14.2 %
BACK LIGHT HIGH ZONE (60 TO 80 DEGREES)	9.4 %
BACK LIGHT VERY HIGH ZONE (80 TO 90 DEGREES)	0.5 %

UPLIGHT:

LUMENS	0.0
% LUMENS	0.0 %
UPLIGHT LOW ZONE (90 TO 100 DEGREES)	0.0 %
UPLIGHT HIGH ZONE (100 TO 180 DEGREES)	0.0 %

TRAPPED LIGHT: NOT APPLICABLE TO AN ABSOLUTE TEST

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WITH SEMI-SPECULAR REFLECTOR AND CLEAR GLASS FLAT LENS
TWENTY FOUR LEDS WITH INDIVIDUAL LENSES. LUMINAIRE OUTPUT: 3893 Lms.
LUMINAIRE OPERATING AT 9.3 VDC AND 75.1 WATTS

IES "BUG" RATING (BACK LIGHT, UPLIGHT, GLARE)
PER ADDENDUM TO IES TM-15-07

	LUMENS	SECONDARY SOLID ANGLE RATING
BACK LIGHT		
BH (60-80 DEGREES)	366.2	B1
BM (30-60 DEGREES)	553.0	B1
BL (0-30 DEGREES)	161.3	B1
UPLIGHT		
UH (100-180 DEGREES)	0.0	U0
UL (90-100 DEGREES)	0.0	U0
FVH (80-90 DEGREES)	22.1	U1
BVH (80-90 DEGREES)	19.1	U1
GLARE LIGHT		
FVH (80-90 DEGREES)	22.1	G1
BVH (80-90 DEGREES)	19.1	G1
FH (60-80 DEGREES)	915.1	G1
BH (60-80 DEGREES)	366.2	G1

IES BUG RATING: B1 U1 G1

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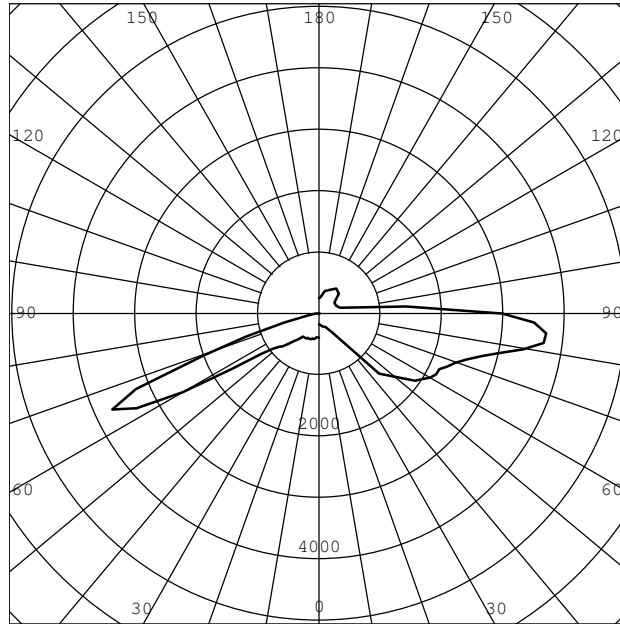
SOL INC - LED ROADWAY LUMINAIRE, CAT# 10/10 TYPE 2
 WITH SEMI-SPECULAR REFLECTOR AND CLEAR GLASS FLAT LENS
 TWENTY FOUR LEDS WITH INDIVIDUAL LENSES. LUMINAIRE OUTPUT: 3893 Lms.
 LUMINAIRE OPERATING AT 9.3 VDC AND 75.1 WATTS

INTENSITY (CANDLEPOWER)
 IN MAX. PLANE

ANGLE	CANDLEPOWER
0.0	403
5.0	402
10.0	420
15.0	435
20.0	448
25.0	450
30.0	461
35.0	474
40.0	563
45.0	702
50.0	856
52.5	956
55.0	1155
57.5	1680
60.0	2576
62.5	3354
65.0	3722
67.5	3229
70.0	1992
72.5	1256
75.0	591
77.5	195
80.0	111
82.5	65
85.0	28
87.5	1
90.0	0
95.0	0
105.0	0
115.0	0
125.0	0
135.0	0
145.0	0
155.0	0
165.0	0
175.0	0
180.0	0

INTENSITY (CANDLEPOWER)
 IN MAX. CONE

ANGLE	CANDLEPOWER
0.0	180
5.0	193
15.0	221
25.0	255
35.0	379
45.0	1406
55.0	1925
60.0	2101
62.5	2162
65.0	2173
67.5	2261
70.0	2367
72.5	2524
75.0	2724
77.5	2999
80.0	3378
82.5	3698
85.0	3722
87.5	3511
90.0	2988
95.0	1429
105.0	369
115.0	320
125.0	320
135.0	461
145.0	500
155.0	437
165.0	391
175.0	274
180.0	258



MAXIMUM INTENSITY (CANDLEPOWER) : 3722 CD

PLANE OF MAXIMUM: 85.0

VERTICAL ANGLE OF MAXIMUM: 65.0

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 WITH SEMI-SPECULAR REFLECTOR AND CLEAR GLASS FLAT LENS
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 LUMINAIRE OPERATING AT 9.3 VDC AND 75.1 WATTS

INTENSITY (CANDLEPOWER) SUMMARY

VERT. ANGLE	HORIZONTAL ANGLES - STREET SIDE									
	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0

0.0	403	403	403	403	403	403	403	403	403	403
5.0	411	412	412	412	411	409	410	411	407	402
10.0	420	420	417	412	408	406	411	417	419	420
15.0	495	495	483	466	451	437	431	430	428	435
20.0	641	640	613	588	551	504	467	463	465	448
25.0	831	823	797	776	729	646	571	515	511	450
30.0	1023	1006	983	999	961	891	740	585	548	461
35.0	1315	1287	1279	1295	1273	1176	968	691	583	474
40.0	1615	1575	1642	1747	1728	1522	1202	866	674	563
45.0	1557	1502	1694	1942	2067	1880	1458	1191	929	702
50.0	1152	1125	1323	1716	1979	1841	1962	1846	1358	856
55.0	900	890	1005	1234	1432	1943	2476	2134	2286	1155
60.0	445	451	491	694	969	1982	2654	2742	3428	2576
65.0**	180	193	221	255	379	1406	1925	2173	2724	3722
70.0	118	122	147	174	199	500	715	1082	2020	1992
75.0	62	66	91	128	115	123	171	966	1780	591
80.0	29	32	44	51	48	41	56	371	612	111
85.0	5	6	8	7	6	5	7	25	48	28
90.0	0	0	0	0	0	0	0	0	0	0

VERT. ANGLE	HORIZONTAL ANGLES - HOUSE SIDE										
	90.0	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0	175.0	180.0
0.0	403	403	403	403	403	403	403	403	403	403	403
5.0	401	399	401	409	417	422	427	427	427	427	427
10.0	415	413	419	432	427	413	404	396	390	388	388
15.0	435	429	436	439	417	396	377	356	345	342	342
20.0	452	454	452	442	410	353	321	322	322	319	318
25.0	450	464	468	443	336	328	362	374	343	331	328
30.0	448	467	483	376	335	399	412	388	386	387	383
35.0	435	441	468	323	386	451	463	454	471	485	482
40.0	504	484	415	328	367	420	466	510	524	541	541
45.0	639	567	395	316	355	429	520	553	569	554	554
50.0	673	553	384	334	384	534	609	592	581	556	549
55.0	943	724	439	395	416	578	629	587	545	504	482
60.0	1983	1167	445	403	391	561	590	547	475	378	364
65.0**	2988	1429	369	320	320	461	500	437	391	274	258
70.0	1234	606	234	235	248	361	399	395	319	222	208
75.0	268	346	153	143	162	238	317	307	213	186	187
80.0	66	108	63	73	68	105	128	178	181	101	84
85.0	15	12	9	12	12	16	21	36	42	41	26
90.0	0	0	0	0	0	0	0	0	0	0	0

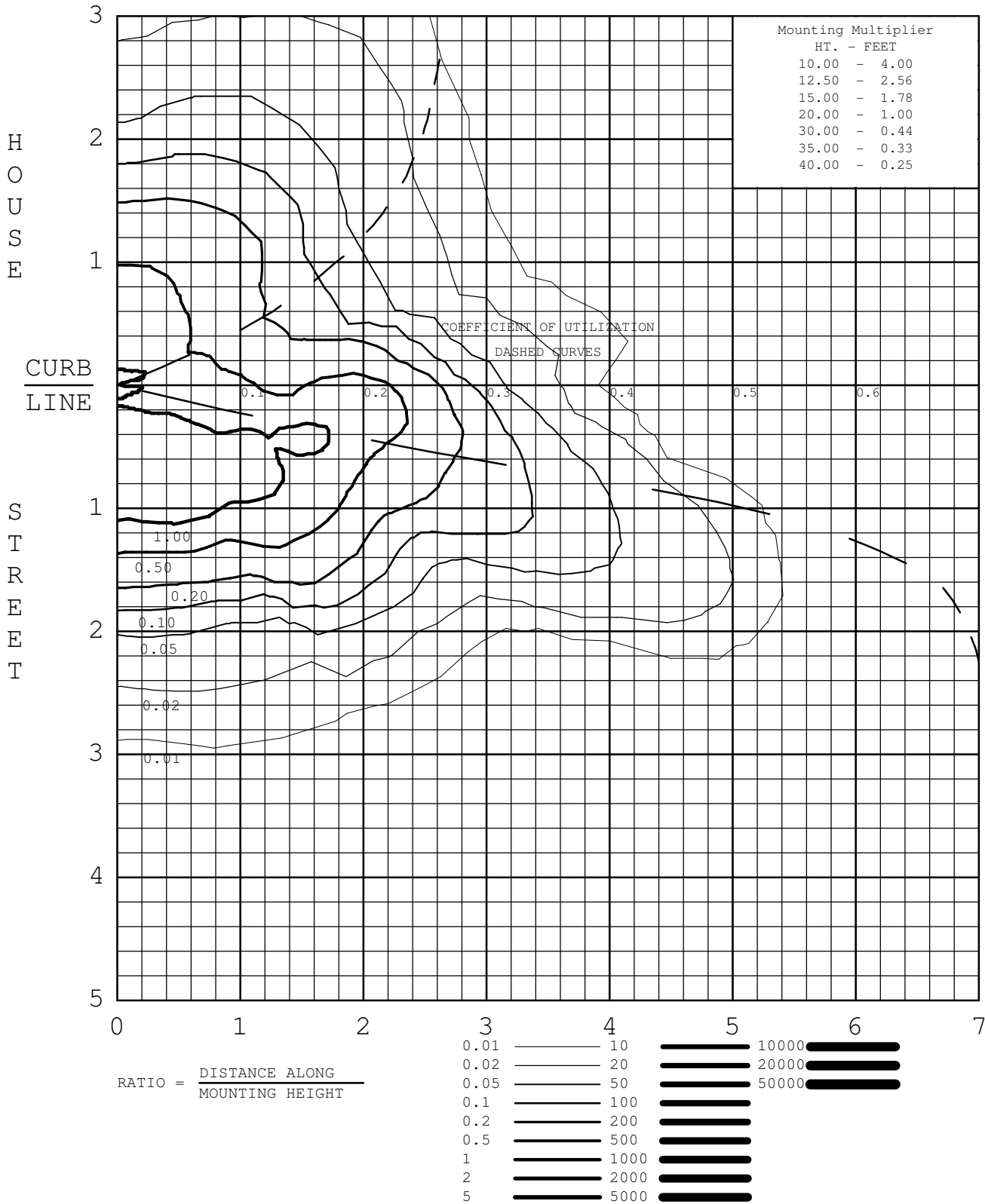
** DENOTES VERTICAL ANGLE OF MAXIMUM CONE
 **** DENOTES LATERAL ANGLE OF MAXIMUM PLANE
 INTENSITY WAS MEASURED IN 2.5 DEGREE STEPS - TABULATIONS ARE AVAILABLE

ISOFOOTCANDLE

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 TWENTY FOUR LEDS WITH INDIVIDUAL LENSES. LUMINAIRE OUTPUT: 3893 Lms.
 LUMINAIRE OPERATING AT 9.3 VDC AND 75.1 WATTS

MOUNTING HEIGHT FOR ISOFC 20.0 FEET



LIGHTING SCIENCES, INC.
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** ILLUMINANCE (FOOTCANDLE) TABLE FOR SINGLE LUMINAIRE AT 20.0 FT. **

LATERAL RATIOS	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0
-3.00	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.016	.019	.020	.019	.016	.010	.006	.003	.002	.001	.001	.001	.000	.000	.000
-2.50	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.030	.037	.040	.033	.023	.013	.007	.004	.002	.002	.001	.001	.000	.000	.000
-2.00	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.064	.081	.075	.053	.033	.016	.008	.005	.003	.002	.001	.001	.001	.000	.000
-1.50	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	0.19	0.20	0.16	0.091	.038	.019	.010	.006	.004	.002	.001	.001	.001	.000	.000
-1.00	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	0.49	0.43	0.27	0.10	.052	.026	.013	.007	.005	.003	.002	.001	.001	.001	.000
-0.50	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	0.60	0.61	0.24	0.16	0.10	.058	.027	.015	.009	.005	.003	.002	.001	.001	.000
HOUSE	CURB LINE														
STREET	1.0	0.81	0.56	0.49	0.63	0.25	.071	.022	.008	.003	.002	.001	.001	.000	.000
0.50	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	1.5	1.6	1.2	1.1	0.61	0.31	0.14	.065	.025	.008	.003	.002	.001	.001	.000
1.00	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	1.3	1.3	0.93	0.74	0.32	0.16	0.13	.086	.047	.024	.011	.005	.002	.001	.001
1.50	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	0.33	0.31	0.23	0.28	0.13	.049	.042	.052	.043	.028	.016	.008	.004	.002	.001
2.00	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.052	.054	.043	.044	.041	.020	.011	.009	.014	.014	.011	.008	.005	.003	.002
2.50	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.018	.019	.018	.015	.012	.008	.005	.003	.003	.003	.004	.004	.004	.003	.002
3.00	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.008	.009	.009	.008	.006	.004	.003	.002	.001	.001	.001	.001	.001	.001	.001
3.50	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.004	.004	.005	.005	.004	.003	.002	.001	.001	.001	.001	.001	.000	.001	.001
4.00	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.002	.002	.002	.003	.002	.002	.001	.001	.001	.000	.000	.000	.000	.000	.000
4.50	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.001	.001	.001	.002	.001	.001	.001	.001	.000	.000	.000	.000	.000	.000	.000
5.00	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
	.001	.001	.001	.001	.001	.001	.001	.000	.000	.000	.000	.000	.000	.000	.000
	0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0

CORRECTION FACTORS FOR OTHER MOUNTING HEIGHTS: SEE ISOFOOTCANDLE PAGE