

# itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

INDEPENDENT TESTING LABORATORIES, INC.  
3386 LONGHORN ROAD, BOULDER, CO 80302 USA

PHONE: (303)442-1255 • FAX: (303)449-5274 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL60486  
PREPARED FOR: YJBLED.COM  
CATALOG NUMBER: 10096WL

DATE: 06/12/08

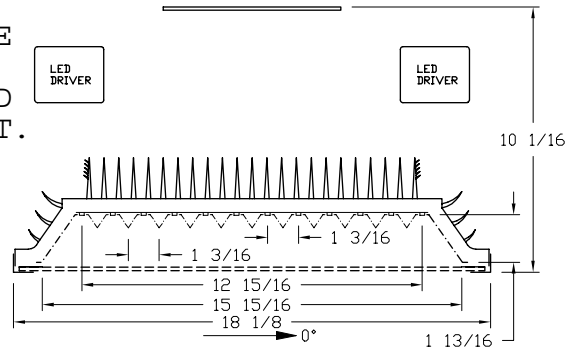
LUMINAIRE: EXTRUDED FINNED METAL HOUSING WITH CAST FINNED METAL END PIECES, SIX CIRCUIT BOARDS EACH WITH 16 LEDS, FORMED METAL TOP AND SIDE REFLECTORS WITH PREMIUM SPECULAR FINISH, CLEAR FLAT GLASS LENS IN FABRICATED METAL LENS FRAME. INTERIOR OF LENS HAS BLACK PAINTED OUTER PERIMETER.

LAMP: NINETY-SIX 1-WATT MULTI-CHIP LIGHT EMITTING DIODES (LEDs), VERTICAL BASE-UP POSITION.

TOTAL INPUT WATTS = 108.9 AT 120.0 VOLTS

LED DRIVER: TWO MEAN WELL S-150-24

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC) TO THE LED DRIVERS. LAMP AND DRIVER INFORMATION PROVIDED BY CLIENT.



### CANDELA DISTRIBUTION

	0.0	22.5	45.0	67.5	90.0
0	3611	3611	3611	3611	3611
5	3530	3558	3590	3643	3643
15	3197	3271	3300	3282	3336
25	2071	2205	2577	2974	3030
35	1662	1714	1789	2462	2521
45	1184	1259	1374	1520	1914
55	42	92	760	983	1395
65	44	35	13	533	753
75	32	28	20	28	223
85	5	4	4	6	8
90	0	0	0	0	0

### FLUX

340
915
1185
1264
1087
582
239
62
6

### ZONAL LUMEN SUMMARY

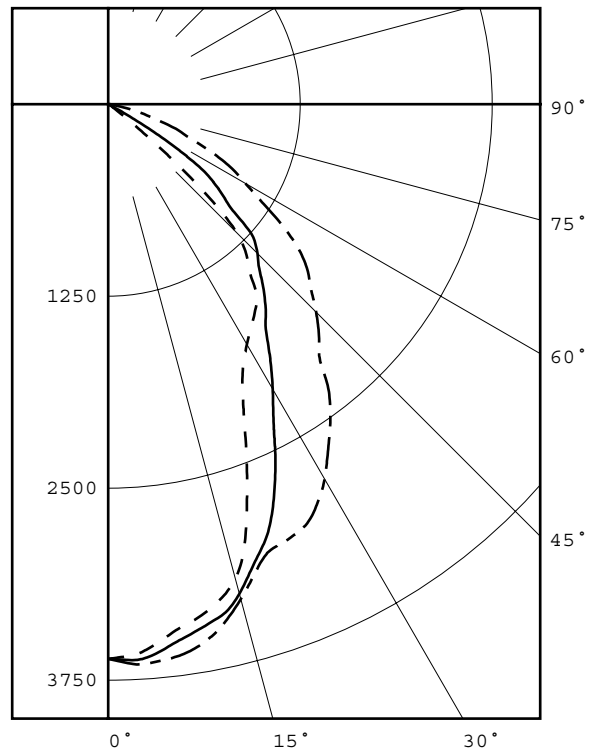
ZONE	LUMENS	%FIXT
0- 30	2440	42.9
0- 40	3704	65.2
0- 60	5373	94.6
0- 90	5681	100.0
90-180	0	0.0
0-180	5681	100.0

### CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG  
SPACING CRITERIA : 0.8 1.2  
LUMINOUS LENGTH : 15.938 12.875

### LUMINANCE DATA IN CANDELA/SQ M

ANGLE IN DEG	AVERAGE 0-DEG	AVERAGE 45-DEG	AVERAGE 90-DEG
45	12648.	14678.	20447.
55	553.	10009.	18372.
65	786.	232.	13459.
75	934.	584.	6508.
85	433.	347.	693.



LEGEND:  
0-deg: - - - - -  
45-deg: = = = = =  
90-deg: - . - . - .

Checked ..... *B.HYRE* .....  
Approved ..... *R.BEATTIE* .....



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	0.0	22.5	45.0	67.5	90.0
0.0	3611	3611	3611	3611	3611
2.5	3592	3606	3623	3637	3648
5.0	3530	3558	3590	3643	3643
7.5	3449	3500	3522	3594	3618
10.0	3392	3439	3466	3517	3562
12.5	3315	3379	3410	3406	3467
15.0	3197	3271	3300	3282	3336
17.5	2967	3052	3144	3149	3192
20.0	2644	2750	3006	3048	3089
22.5	2333	2442	2810	3003	3065
25.0	2071	2205	2577	2974	3030
27.5	1907	1998	2331	2901	2941
30.0	1806	1891	2142	2791	2818
32.5	1728	1799	1963	2648	2665
35.0	1662	1714	1789	2462	2521
37.5	1595	1636	1685	2255	2362
40.0	1435	1559	1574	2025	2137
42.5	1334	1383	1456	1710	2031
45.0	1184	1259	1374	1520	1914
47.5	855	1091	1282	1355	1793
50.0	424	764	1028	1221	1697
52.5	126	350	905	1088	1573
55.0	42	92	760	983	1395
57.5	28	34	495	896	1188
60.0	29	23	187	722	1032
62.5	40	26	35	627	910
65.0	44	35	13	533	753
67.5	46	35	12	418	573
70.0	53	36	20	245	469
72.5	46	39	21	97	319
75.0	32	28	20	28	223
77.5	21	19	18	24	122
80.0	13	10	12	19	37
82.5	11	8	8	11	17
85.0	5	4	4	6	8
87.5	1	1	1	1	2
90.0	0	0	0	0	0

ZONAL	LUMEN	SUMMARY
0-	5	87.
5-	10	253.
10-	15	403.
15-	20	512.
20-	25	574.
25-	30	611.
30-	35	634.
35-	40	630.
40-	45	577.
45-	50	510.
50-	55	347.
55-	60	235.
60-	65	141.
65-	70	98.
70-	75	44.
75-	80	18.
80-	85	6.
85-	90	1.



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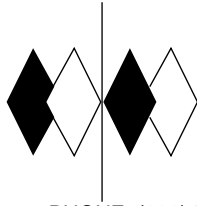
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

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	112	108	105	102	109	106	103	101	102	100	97	98	96	95	95	93	92	90
2	104	98	93	88	102	96	91	87	93	89	85	89	86	83	87	84	82	80
3	97	88	82	77	95	87	81	76	84	79	75	82	77	74	79	76	73	71
4	90	80	73	68	88	79	72	67	77	71	66	75	70	66	73	68	65	63
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56
6	78	67	59	54	77	66	59	54	65	58	53	63	57	53	61	57	53	51
7	73	62	54	49	72	61	54	49	59	53	48	58	52	48	57	52	48	46
8	69	57	50	44	67	56	49	44	55	49	44	54	48	44	53	48	44	42
9	65	53	46	41	63	52	45	41	51	45	40	50	44	40	49	44	40	38
10	61	49	42	37	60	49	42	37	48	42	37	47	41	37	46	41	37	35

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS LUMINAIRE SAMPLE.



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REPORT NUMBER: ITL60490  
DATE: 6/13/08  
PREPARED FOR: YJBLED.COM

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CATALOG NUMBER: 10096WL

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LAMP: NINETY-SIX 1-WATT MULTI-CHIP LIGHT EMITTING DIODES (LEDS), VERTICAL BASE-UP POSITION.

LED DRIVER: TWO MEAN WELL S-150-24

INSTRUMENTATION: Elgar CW2501 Voltage Regulator  
Yokogawa WT210 Digital Power Analyzer  
Optronics OL770 Spectroradiometer  
ITL 1.5 Meter Diameter Integrating Sphere

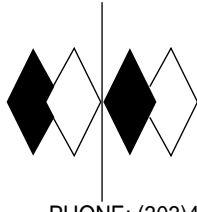
OBJECT OF TEST: Measure the Correlated Color Temperature (CCT), Color Rendering Index (CRI), Chromaticity Coordinates (x,y), and Spectral Power Distribution (SPD) of the lamp and input electrical parameters.

PROCEDURE: The luminaire was provided by customer and the LEDs had an unknown number of burn hours. The luminaire was mounted inside the integrating sphere with the LEDs in a base up position (lens down). The luminaire was allowed to stabilize overnight at 120VAC input. After stabilization occurred, CCT, CRI, x/y coordinates, and SPD readings were recorded. In order to measure the mean performance, twenty data sets were recorded and averaged within the OL770. All data are traceable to the National Institute of Standards and Technology.

RESULTS:

SPECTORADIOMETRIC	
Observer	CIE 1931 2 degree
Correlated Color Temp CCT (K)	5208
Chromaticity Ordinate x	0.3398
Chromaticity Ordinate y	0.3524
Color Rendering Index (CRI)	72
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	1.63
Input Power (Watts)	109.82

Checked: <u>    N Gully    </u>
Approved: <u>    R Bergin    </u>



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RESULTS: Spectral Performance Test:

Wavelength	Percent of Integrated Radiant Flux for each 5nm wavelength window(%)	Wavelength	Percent of Integrated Radiant Flux for each 5nm wavelength window(%)	Wavelength	Percent of Integrated Radiant Flux for each 5nm wavelength window(%)
380	0.05025	515	1.60028	650	1.06937
385	0.04785	520	1.91115	655	0.96836
390	0.05082	525	2.18520	660	0.87385
395	0.05606	530	2.40518	665	0.78496
400	0.06544	535	2.55648	670	0.70435
405	0.08372	540	2.67059	675	0.62826
410	0.12303	545	2.74710	680	0.56098
415	0.20247	550	2.79526	685	0.49959
420	0.34992	555	2.81605	690	0.44389
425	0.61040	560	2.81855	695	0.39367
430	1.02213	565	2.80231	700	0.34933
435	1.59110	570	2.76967	705	0.30938
440	2.31727	575	2.72290	710	0.27381
445	3.26268	580	2.66253	715	0.24135
450	4.01667	585	2.58795	720	0.21319
455	3.80072	590	2.50032	725	0.18842
460	2.82918	595	2.40064	730	0.16594
465	1.96074	600	2.29206	735	0.14602
470	1.37816	605	2.17474	740	0.12852
475	0.97014	610	2.05238	745	0.11324
480	0.71245	615	1.92504	750	0.09995
485	0.57902	620	1.79540	755	0.08812
490	0.53731	625	1.66608	760	0.07760
495	0.58538	630	1.53923	765	0.06817
500	0.73070	635	1.41445	770	0.06019
505	0.96519	640	1.29495	775	0.05308
510	1.26558	645	1.17759	780	0.04797

