

itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

PHONE: (303) 442-1255

FAX: (970) 535-3114

E-MAIL: itl@itlboulder.com

WEBSITE: www.itlboulder.com

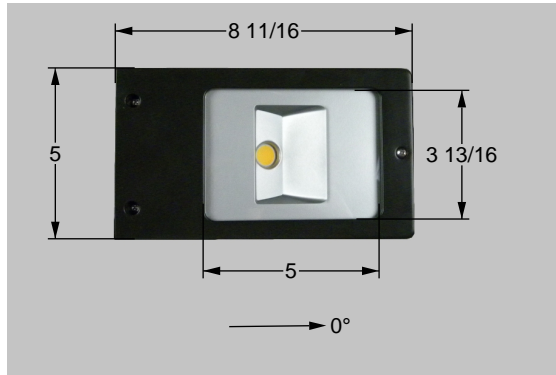
NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.

4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

Values based on 15 foot mounting height.



REPORT NUMBER: ITL82638

ISSUE DATE: 09/04/14

PAGE: 1 OF 8

PREPARED FOR: RAB LIGHTING, INC.

CATALOG NUMBER: WPLED13Y (WALLPACK) -

ALED13Y (AREA LIGHTER) - BLED13Y (Bollard)
LUMINAIRE: CAST METAL HOUSING, ONE

CIRCUIT BOARD WITH ONE LED, MOLDED PLASTIC REFLECTOR WITH SEMI-DIFFUSE FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.

LAMP: ONE WHITE MULTI-CHIP LIGHT

EMITTING DIODE (LED), TILTED 30-DEGREES FROM VERTICAL BASE-UP POSITION.

TOTAL INPUT WATTS = 15.0 AT 120.0 VOLTS

LED DRIVER: RAB LIGHTING RD113-36-C0350

NOTE: DATA SHOWN IS ABSOLUTE FOR THE

SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE DRIVER. DRIVER INFORMATION PROVIDED BY CLIENT.

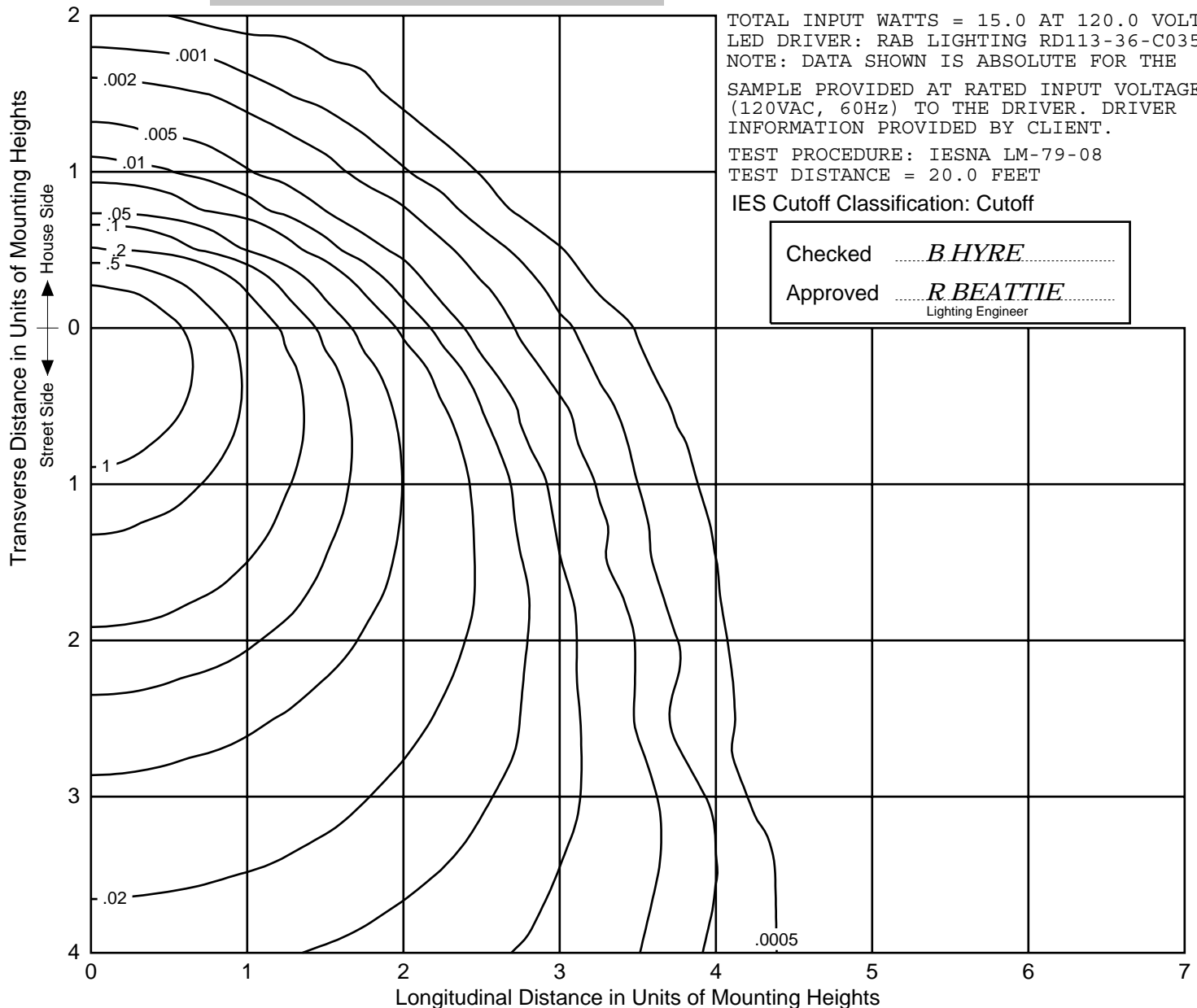
TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

IES Cutoff Classification: Cutoff

Checked *B. HYRE*

Approved *R. BEATTIE*
Lighting Engineer



REPORT NUMBER: ITL82638

ISSUE DATE: 09/04/14 PAGE: 2 OF 8

PREPARED FOR: RAB LIGHTING, INC.

CATALOG NUMBER: WPLED13Y (WALLPACK) -

ALED13Y (AREA LIGHTER)

LUMINAIRE: CAST METAL HOUSING, ONE
CIRCUIT BOARD WITH ONE LED, MOLDED
PLASTIC REFLECTOR WITH SEMI-DIFFUSE
FINISH, CLEAR FLAT GLASS LENS IN CAST
BROWN PAINTED METAL FRAME.

LAMP: ONE WHITE MULTI-CHIP LIGHT
EMITTING DIODE (LED), TILTED 30-
DEGREES FROM VERTICAL BASE-UP
POSITION.

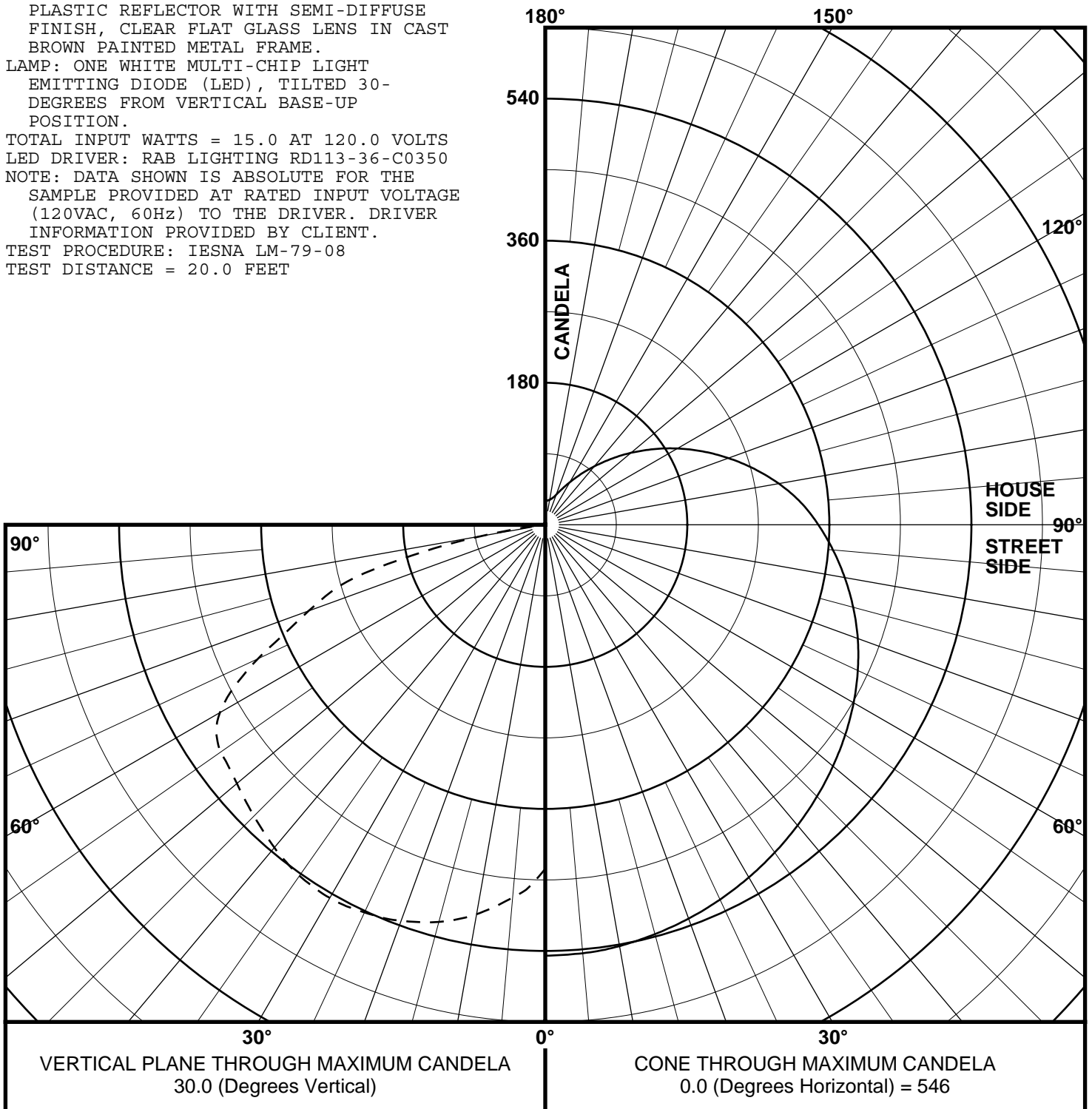
TOTAL INPUT WATTS = 15.0 AT 120.0 VOLTS
LED DRIVER: RAB LIGHTING RD113-36-C0350

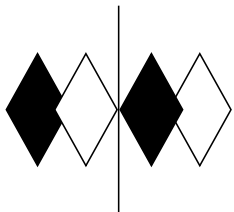
NOTE: DATA SHOWN IS ABSOLUTE FOR THE
SAMPLE PROVIDED AT RATED INPUT VOLTAGE
(120VAC, 60Hz) TO THE DRIVER. DRIVER
INFORMATION PROVIDED BY CLIENT.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 20.0 FEET

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

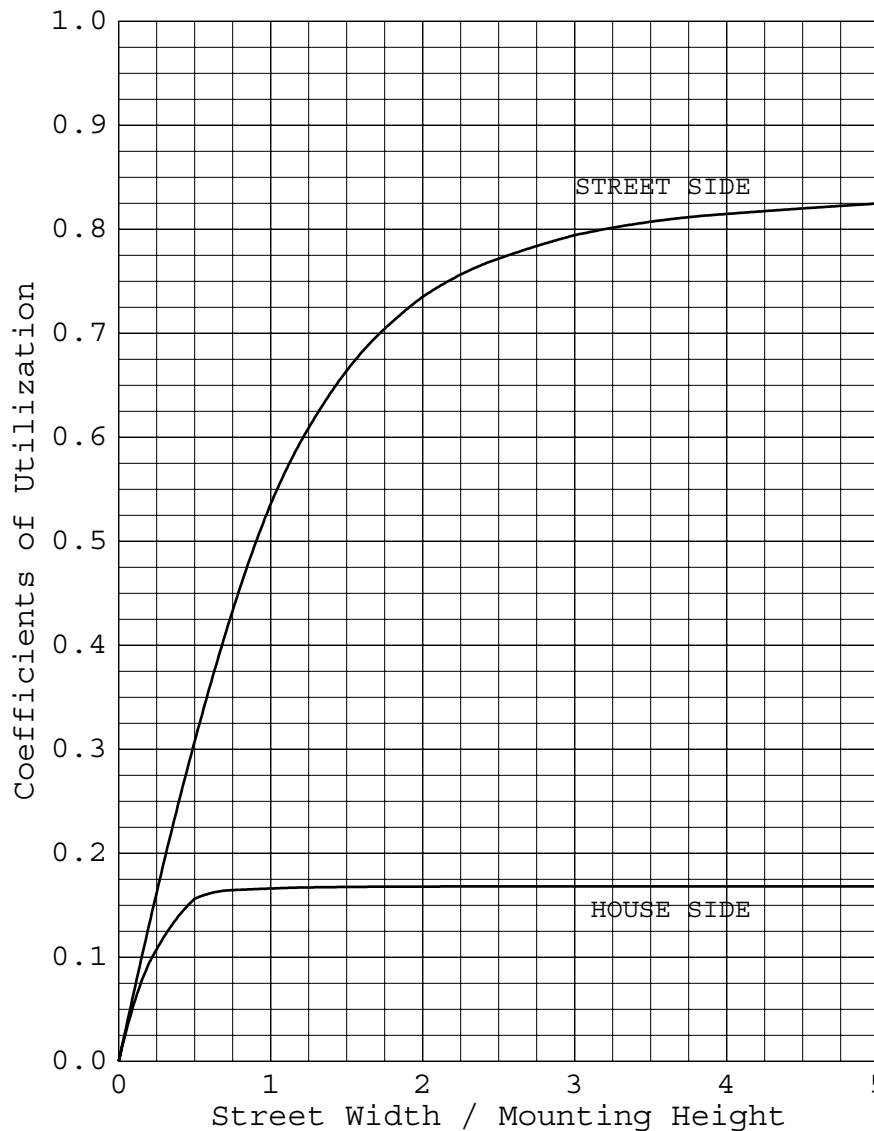




REPORT NUMBER: ITL82638
ISSUE DATE: 09/04/14
PREPARED FOR: RAB LIGHTING, INC.

PAGE: 3 OF 8

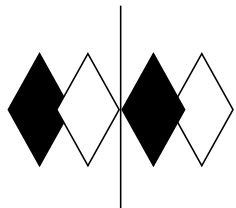
COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	861	83.1
DOWNWARD HOUSE SIDE	175	16.9
DOWNWARD TOTAL	1035	100.0
UPWARD STREET SIDE	0	0.0
UPWARD HOUSE SIDE	0	0.0
UPWARD TOTAL	0	0.0
TOTAL FLUX	1035	100.0

EFFICACY = 69.0 lm/W

ALL CANDELA AND LUMENS 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.



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

REPORT NUMBER: ITL82638
ISSUE DATE: 09/04/14
PREPARED FOR: RAB LIGHTING, INC.

PAGE: 4 OF 8

FLUX DISTRIBUTION BY SOLID ANGLE

(PER IESNA TM-15-11, LUMINAIRE CLASSIFICATION
SYSTEM FOR OUTDOOR LUMINAIRES)

	LUMENS	PERCENT OF FIXTURE	BUG ZONE RATINGS
FORWARD LIGHT	861.	83.1	
FL (0- 30)	200.9	19.4	
FM (30- 60)	462.8	44.7	
FH (60- 80)	190.6	18.4	G0
FVH(80- 90)	6.3	0.6	G0
BACK LIGHT	175.	16.9	
BL (0- 30)	108.9	10.5	B0
BM (30- 60)	62.7	6.1	B0
BH (60- 80)	3.0	0.3	B0 G0
BVH(80- 90)	0.0	0.0	G0
UPLIGHT	0.	0.0	
UL (90-100)	0.1	0.0	U1
UH (100-180)	0.0	0.0	U0
TRAPPED LIGHT	0.	0.0	
TOTAL FLUX	1035.	100.0	

BACKLIGHT, UPLIGHT, AND GLARE (BUG) RATINGS
(PER ADDENDUM A FOR IESNA TM-15-11)

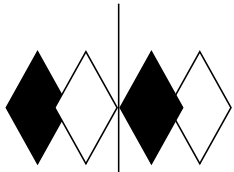
BUG RATING: B0 U1 G0

REPORT NUMBER: ITL82638
ISSUE DATE: 09/04/14
PREPARED FOR: RAB LIGHTING, INC.

PAGE: 5 OF 8

CANDELA TABULATION

	STREET SIDE	LATERAL ANGLE										
		0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0	90.0
	180.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	105.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	95.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	92.5	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.
	90.0	2.	2.	2.	1.	1.	0.	0.	0.	0.	0.	0.
	87.5	6.	5.	5.	5.	3.	2.	1.	1.	0.	0.	0.
	85.0	11.	11.	10.	9.	7.	4.	3.	2.	1.	0.	0.
V	82.5	27.	26.	29.	35.	33.	10.	5.	3.	2.	1.	1.
E	80.0	83.	80.	85.	95.	92.	34.	10.	5.	4.	2.	2.
R	77.5	159.	156.	163.	160.	152.	98.	19.	10.	5.	3.	3.
T	75.0	237.	235.	233.	221.	188.	148.	69.	18.	10.	5.	4.
I	72.5	286.	284.	273.	253.	222.	179.	128.	51.	17.	9.	7.
C	70.0	319.	317.	308.	287.	258.	215.	161.	98.	40.	14.	10.
A	67.5	355.	355.	344.	332.	305.	250.	190.	136.	74.	27.	16.
L	65.0	402.	402.	396.	377.	344.	282.	219.	163.	105.	50.	30.
	62.5	444.	444.	434.	412.	376.	309.	248.	191.	130.	73.	48.
A	60.0	476.	474.	462.	437.	397.	333.	275.	218.	156.	97.	69.
N	57.5	494.	492.	478.	450.	411.	356.	301.	244.	182.	123.	92.
G	55.0	502.	500.	486.	458.	424.	377.	325.	271.	209.	149.	117.
L	52.5	505.	504.	491.	467.	437.	396.	347.	294.	234.	174.	142.
E	50.0	510.	508.	497.	476.	448.	413.	368.	317.	260.	199.	169.
	47.5	516.	514.	504.	485.	460.	428.	387.	339.	283.	223.	194.
	45.0	522.	521.	511.	494.	471.	440.	403.	358.	306.	247.	219.
	42.5	528.	527.	518.	502.	480.	451.	417.	376.	327.	270.	243.
	40.0	534.	533.	524.	509.	488.	461.	430.	392.	346.	292.	266.
	37.5	539.	538.	530.	515.	495.	469.	441.	406.	364.	313.	289.
	35.0	543.	542.	534.	519.	500.	476.	450.	418.	380.	333.	310.
	32.5	545.	544.	537.	522.	504.	482.	458.	429.	393.	350.	329.
	30.0<<	546.	545.	537.	524.	507.	487.	464.	437.	404.	366.	346.
	25.0	542.	541.	535.	523.	509.	492.	472.	449.	422.	391.	376.
	20.0	534.	533.	528.	518.	506.	492.	475.	456.	434.	410.	398.
	15.0	521.	520.	516.	507.	497.	486.	472.	457.	441.	424.	415.
	10.0	501.	500.	496.	489.	481.	473.	463.	453.	443.	431.	426.
	5.0	474.	472.	471.	465.	461.	456.	451.	446.	441.	435.	432.
	0.0	436.	436.	436.	436.	436.	436.	436.	436.	436.	436.	436.
		PLANE OF MAXIMUM CANDELA										
		CONE OF MAXIMUM CANDELA										



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL82638
ISSUE DATE: 09/04/14
PREPARED FOR: RAB LIGHTING, INC.

PAGE: 6 OF 8

CANDELA TABULATION

	HOUSE SIDE		LATERAL ANGLE							
	95.0	105.0	115.0	125.0	135.0	145.0	155.0	165.0	175.0	180.0
	180.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	175.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	165.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	155.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	145.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	135.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	125.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	115.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	105.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	95.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	92.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
	90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
	87.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
	85.0	0.	0.	0.	0.	0.	0.	0.	0.	0.
V	82.5	0.	0.	0.	0.	0.	0.	0.	0.	0.
E	80.0	1.	0.	0.	0.	0.	0.	0.	0.	0.
R	77.5	2.	1.	0.	0.	0.	0.	0.	0.	0.
T	75.0	3.	1.	1.	0.	0.	0.	0.	0.	0.
I	72.5	4.	2.	1.	1.	1.	0.	0.	0.	0.
C	70.0	8.	3.	2.	1.	1.	1.	0.	0.	0.
A	67.5	11.	5.	3.	2.	2.	1.	1.	1.	1.
L	65.0	16.	9.	4.	3.	2.	2.	1.	1.	1.
	62.5	28.	12.	5.	4.	3.	2.	2.	2.	2.
A	60.0	45.	15.	8.	5.	4.	3.	2.	2.	2.
N	57.5	66.	23.	11.	6.	5.	4.	3.	3.	3.
G	55.0	90.	38.	14.	8.	6.	5.	4.	4.	4.
L	52.5	114.	56.	18.	11.	7.	6.	5.	5.	5.
E	50.0	140.	78.	28.	15.	9.	7.	6.	6.	6.
	47.5	166.	102.	45.	18.	12.	9.	8.	7.	7.
	45.0	190.	127.	66.	22.	17.	11.	9.	8.	8.
	42.5	215.	152.	88.	36.	20.	15.	11.	10.	9.
	40.0	238.	178.	114.	58.	23.	20.	16.	13.	12.
	37.5	262.	203.	140.	83.	36.	23.	21.	18.	16.
	35.0	284.	228.	167.	109.	60.	29.	25.	23.	22.
	32.5	305.	251.	193.	137.	88.	49.	30.	27.	26.
	30.0<<	325.	274.	220.	167.	118.	78.	50.	35.	31.
	25.0	358.	317.	271.	225.	184.	146.	117.	98.	87.
	20.0	385.	355.	318.	282.	249.	219.	195.	178.	169.
	15.0	405.	384.	359.	334.	310.	288.	272.	259.	253.
	10.0	420.	407.	392.	377.	363.	351.	341.	333.	331.
	5.0	429.	423.	417.	412.	407.	402.	399.	395.	395.
	0.0	436.	436.	436.	436.	436.	436.	436.	436.	436.

CONE OF MAXIMUM CANDELA



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL82638
ISSUE DATE: 09/04/14
PREPARED FOR: RAB LIGHTING, INC.

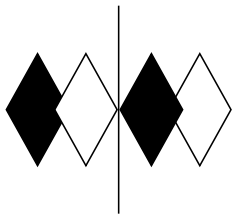
PAGE: 7 OF 8

5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	10
5- 10	30
10- 15	49
15- 20	64
20- 25	75
25- 30	82
30- 35	87
35- 40	90
40- 45	91
45- 50	90
50- 55	86
55- 60	81
60- 65	72
65- 70	57
70- 75	41
75- 80	23
80- 85	6
85- 90	1
90- 95	0
95-100	0
100-105	0
105-110	0
110-115	0
115-120	0
120-125	0
125-130	0
130-135	0
135-140	0
140-145	0
145-150	0
150-155	0
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	41
0- 20	153
0- 30	310
0- 40	487
0- 50	668
0- 60	835
0- 70	965
0- 80	1029
0- 90	1035
0-100	1035
0-110	1035
0-120	1035
0-130	1035
0-140	1035
0-150	1035
0-160	1035
0-170	1035
0-180	1035



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303) 442-1255 • FAX: (970) 535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

REPORT NUMBER: ITL82638
ISSUE DATE: 09/04/14
PREPARED FOR: RAB LIGHTING, INC.

PAGE: 8 OF 8

ADDRESS: 170 LUDLOW AVE
NORTHVALE, NJ 07647

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.



INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

Page 1 of 4

REPORT NUMBER: ITL82644
DATE: 09/08/14
PREPARED FOR: RAB LIGHTING, INC.
CATALOG NUMBER: WPLED13Y (WALLPACK) - ALED13Y (AREA LIGHTER)

ADDRESS: 170 LUDLOW AVE
NORTHVALE, NJ 07647

LUMINAIRE: CAST METAL HOUSING, ONE CIRCUIT BOARD WITH ONE LED, MOLDED PLASTIC REFLECTOR WITH SEMI-DIFFUSE FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.

LAMP: ONE WHITE MULTI-CHIP LIGHT EMITTING DIODE (LED), TILTED 30-DEGREES FROM VERTICAL BASE-UP POSITION.

DRIVER: RAB LIGHTING RD113-36-C0350

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120.0 AND 277.0 VAC, 60Hz) TO THE DRIVER. DRIVER INFORMATION PROVIDED BY CLIENT.

INSTRUMENTS:	Associated Power Technologies APT5010 AC Power Source	Calibration Due: N/A
	Yokogawa WT210 Digital Power Meter #6	10/31/14
	Ocean Optics QE65000 Spectroradiometer	07/14/15
	ITL 1.5m Diameter Integrating Sphere S15-2, 4PI Geometry	07/14/15

OBJECT OF TEST: Measure the Total Radiant Flux*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Indices (CRI_a,1-14), Chromaticity Coordinates (x,y; u'v'), ANSI C78.377 Duv, and electrical data including ANSI C82.77-2002 Power Factor (PF) and Total Harmonic Distortion (THD) to the test sample. Report Off-State Power. Measure electrical data including Total Harmonic Distortion (THD) at maximum rated voltage.

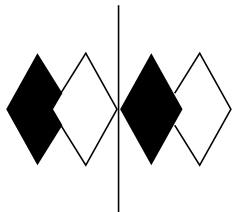
PROCEDURE: The test sample was provided by the customer and had an unknown number of operating hours. The test sample was mounted inside the integrating sphere and allowed to stabilize. After stabilization occurred, measurements were taken. In order to measure mean performance, multiple data sets were recorded and averaged. Readings were taken with the test sample operating at 120.0 VAC input. Electrical data was also recorded at maximum nominal rated input voltage (277.0 VAC). All testing performed in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. All data are traceable to the National Institute of Standards and Technology. Off-State Power was reported with no voltage applied to the sample.

*NOTE: Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.

RESULTS: (continued subsequent pages)

THIS ITL REPORT WITH THE USE OF THE NVLAP LOGO SHALL NOT BE USED BY THE CLIENT TO CLAIM PRODUCT CERTIFICATION, APPROVAL, OR ENDORSEMENT BY NVLAP, NIST, OR ANY AGENCY OF THE FEDERAL GOVERNMENT.

Checked	<u>P O'CONNOR</u>
Approved	<u>L GRABA</u> Lighting Engineer



itl boulder

THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

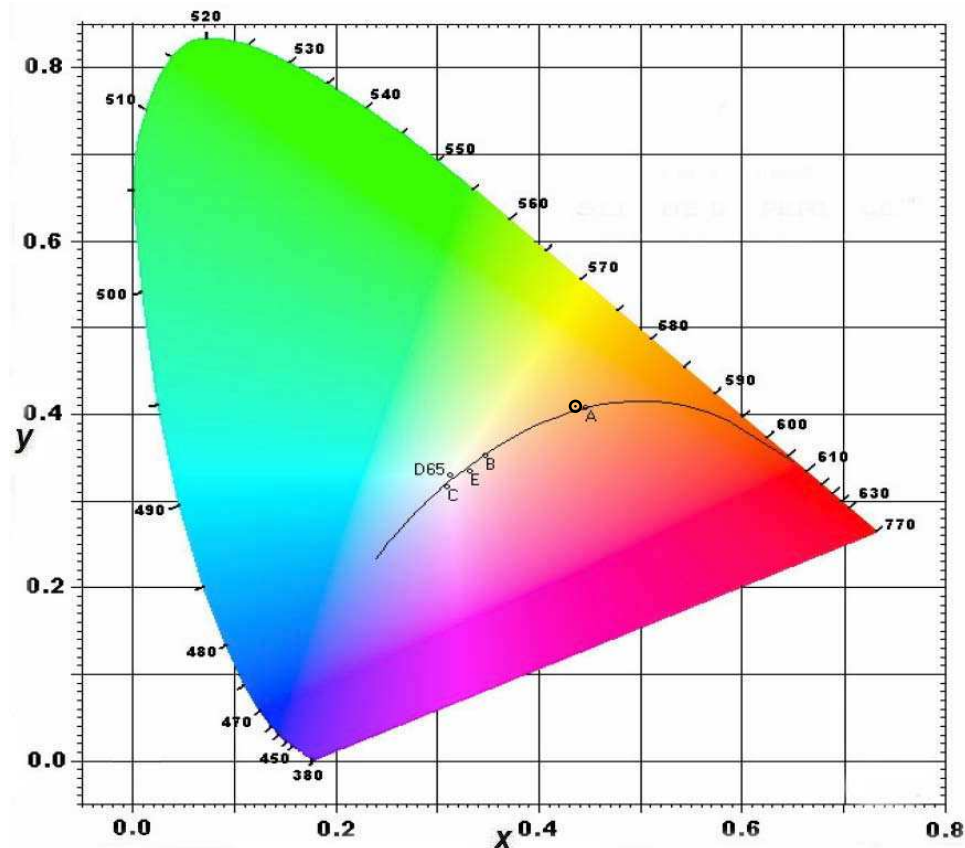
NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com
REPORT NUMBER: ITL82644
DATE: 09/08/14
PREPARED FOR: RAB LIGHTING, INC.
CATALOG NUMBER: WPLED13Y (WALLPACK) - ALED13Y (AREA LIGHTER)

Page 4 of 4

CIE Chromaticity Diagram





INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com
 REPORT NUMBER: ITL82644
 DATE: 09/08/14
 PREPARED FOR: RAB LIGHTING, INC.
 CATALOG NUMBER: WPLED13Y (WALLPACK) - ALED13Y (AREA LIGHTER)

Page 2 of 4

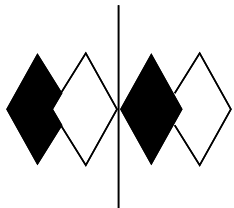
RESULTS:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4358
Chromaticity Ordinate y	0.4088
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2478
Chromaticity Ordinate v'	0.5231
Correlated Color Temp CCT (K)	3058
ANSI C78.377-2008 Duv	0.002
Total Radiant Flux (milliWatts)	3120 *
ELECTRICAL	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.126
Input Power (Watts)	15.0
Input Power Factor (%)	99.2
Input Current THD (%)	8.8
Input Voltage THD (%)	0.1
Off-State Power (Watts)	
	0.0
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.059
Input Power (Watts)	15.7
Input Power Factor (%)	96.1
Input Current THD (%)	13.6
Input Voltage THD (%)	0.1

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	82
R1 Light greyish red	80
R2 Dark greyish yellow	89
R3 Strong yellowish green	97
R4 Moderate yellowish green	82
R5 Light bluish green	80
R6 Light blue	87
R7 Light violet	84
R8 Light reddish purple	59
R9 Strong red	4
R10 Strong yellow	74
R11 Strong green	82
R12 Strong blue	66
R13 Light yellowish pink (skin)	82
R14 Moderate olive green (leaf)	98

*NOTE:

Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even when these effects are compensated for, are likely to have a greater variation in results compared to the flux output calculated from a goniophotometric exploration since these artifacts do not affect the goniophotometric results.



itl boulder
THE LIGHT CENTER OF THE INDUSTRY SINCE 1955

NVLAP
NVLAP LAB CODE: 200925-0

INDEPENDENT TESTING LABORATORIES, INC.
4066 CAMELOT CIRCLE, LONGMONT, CO 80504 USA

PHONE: (303)442-1255 • FAX: (970)535-3114 • E-MAIL: itl@itlboulder.com • WEBSITE: www.itlboulder.com

Page 3 of 4

REPORT NUMBER: ITL82644
DATE: 09/08/14
PREPARED FOR: RAB LIGHTING, INC.
CATALOG NUMBER: WPLED13Y (WALLPACK) - ALED13Y (AREA LIGHTER)

RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.066	515	9.710	650	11.958
385	0.069	520	10.488	655	10.749
390	0.074	525	11.065	660	9.606
395	0.088	530	11.516	665	8.539
400	0.104	535	11.857	670	7.554
405	0.158	540	12.188	675	6.660
410	0.235	545	12.558	680	5.846
415	0.372	550	13.016	685	5.111
420	0.639	555	13.578	690	4.464
425	1.118	560	14.297	695	3.896
430	1.922	565	15.161	700	3.387
435	3.216	570	16.152	705	2.944
440	5.224	575	17.186	710	2.555
445	8.285	580	18.212	715	2.213
450	10.659	585	19.160	720	1.919
455	9.677	590	19.957	725	1.664
460	6.976	595	20.500	730	1.444
465	5.218	600	20.765	735	1.251
470	4.126	605	20.759	740	1.087
475	3.364	610	20.451	745	0.942
480	3.158	615	19.889	750	0.818
485	3.460	620	19.078	755	0.711
490	4.122	625	18.083	760	0.622
495	5.116	630	16.956	765	0.543
500	6.327	635	15.742	770	0.475
505	7.594	640	14.497	775	0.415
510	8.730	645	13.228	780	0.363

