

ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION

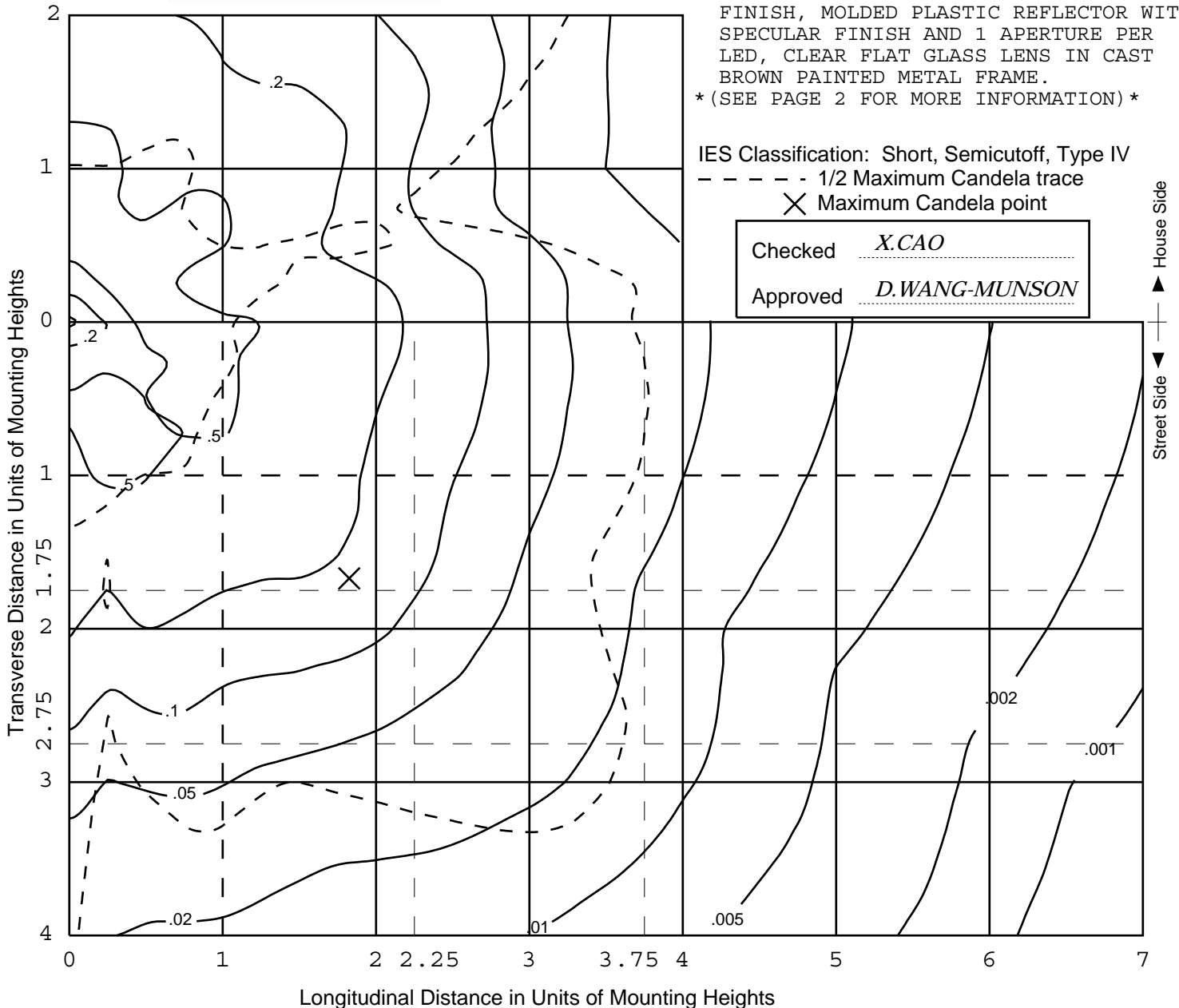
Values based on 15 foot mounting height.



REPORT NUMBER: RAB01050
 ISSUE DATE: 08/04/15 PAGE: 1 OF 9
 DATE SAMPLE TESTED: 08/04/15
 PREPARED FOR: RAB LIGHTING INC.
 CATALOG NUMBER: ALED5T26Y/480 (TYPE V - Short - Semicutoff)
 LUMINAIRE: CAST BROWN PAINTED METAL POSTTOP FITTER WITH 3 FABRICATED BROWN PAINTED METAL VERTICAL POSTS, CAST 2-PIECE BROWN PAINTED FINNED METAL HOUSING, 4 CAST METAL HEAT SINKS/CIRCUIT BOARD MOUNTING BRACKETS, 4 CIRCUIT BOARDS EACH WITH 1 LED AND MOLDED PLASTIC CIRCUIT BOARD PERIMETER OVERLAY WITH SPECULAR FINISH, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH AND 1 APERTURE PER LED, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.
 (SEE PAGE 2 FOR MORE INFORMATION)

IES Classification: Short, Semicutoff, Type IV

--- 1/2 Maximum Candela trace
 X Maximum Candela point



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ADDITIONAL INFORMATION

LAMPS: FOUR WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDs), AIMED AT THE HORIZON.

TOTAL INPUT WATTS = 26.844 AT 480.0 VOLTS

LED DRIVERS: RD-LT40-A0700-60PF

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE TO THE LED DRIVERS.

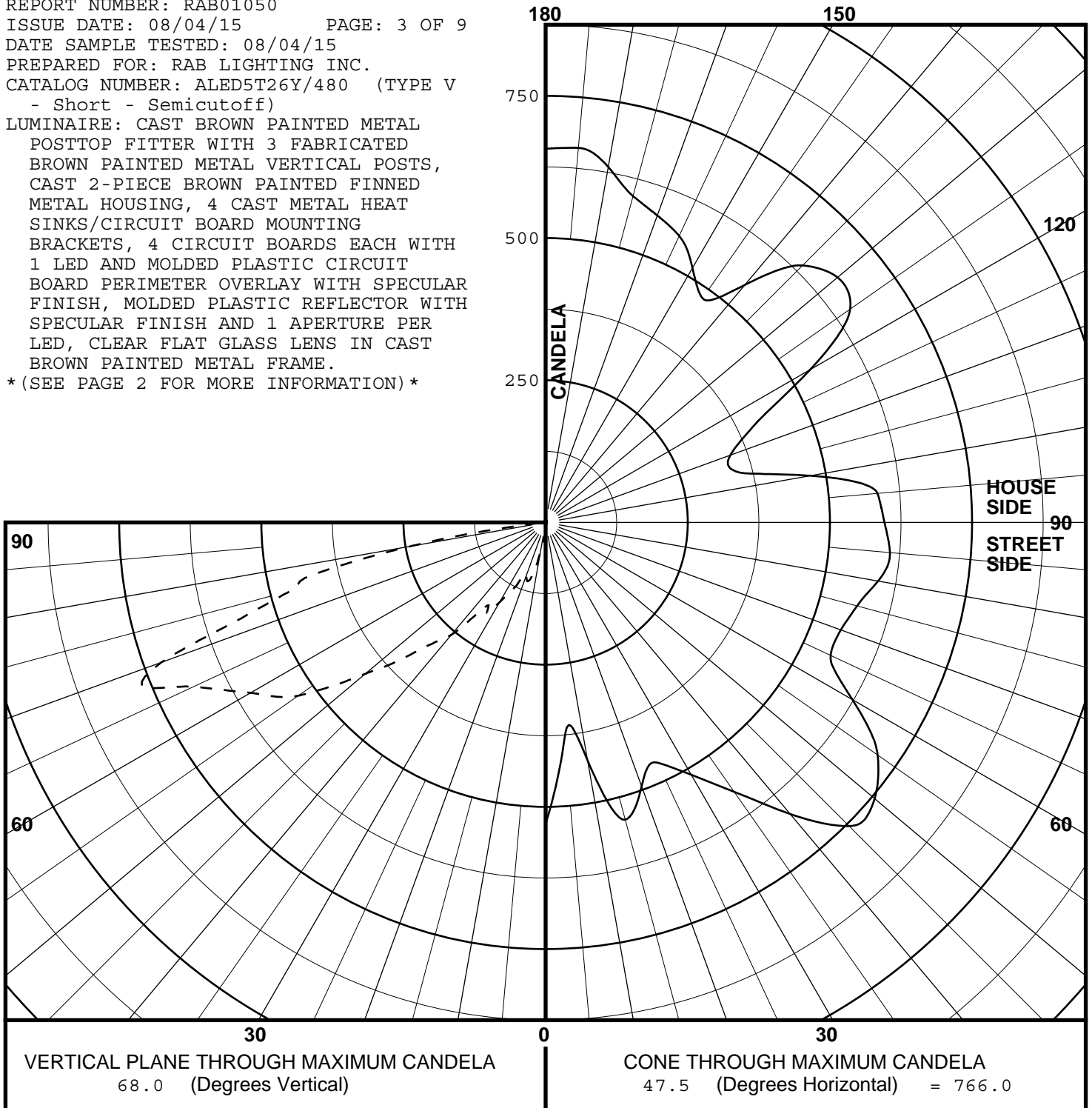
TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 28.25 FEET

ACCREDITED LABORATORY CODE 201058-0

MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

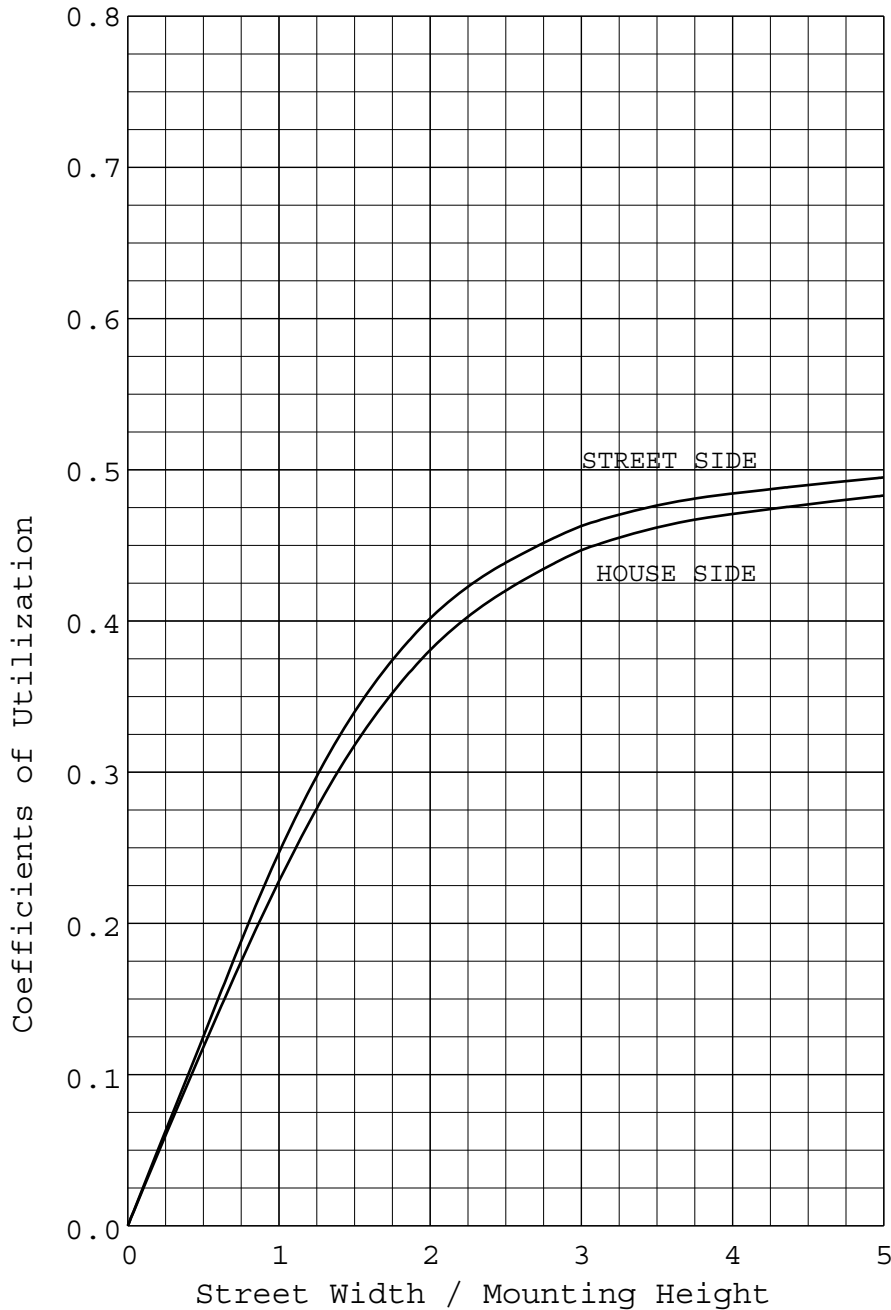
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 CATALOG NUMBER: ALED5T26Y/480 (TYPE V
 - Short - Semicutoff)
 LUMINAIRE: CAST BROWN PAINTED METAL
 POSTTOP FITTER WITH 3 FABRICATED
 BROWN PAINTED METAL VERTICAL POSTS,
 CAST 2-PIECE BROWN PAINTED FINNED
 METAL HOUSING, 4 CAST METAL HEAT
 SINKS/CIRCUIT BOARD MOUNTING
 BRACKETS, 4 CIRCUIT BOARDS EACH WITH
 1 LED AND MOLDED PLASTIC CIRCUIT
 BOARD PERIMETER OVERLAY WITH SPECULAR
 FINISH, MOLDED PLASTIC REFLECTOR WITH
 SPECULAR FINISH AND 1 APERTURE PER
 LED, CLEAR FLAT GLASS LENS IN CAST
 BROWN PAINTED METAL FRAME.
 *(SEE PAGE 2 FOR MORE INFORMATION) *



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COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



	LUMENS	PERCENT OF FIXTURE
DOWNWARD STREET SIDE	977.	50.2
DOWNWARD HOUSE SIDE	963.	49.5
DOWNWARD TOTAL	1939.	99.7
UPWARD STREET SIDE	3.	0.1
UPWARD HOUSE SIDE	3.	0.2
UPWARD TOTAL	6.	0.3
TOTAL FLUX	1945.	100.0
TOTAL INPUT WATTS = 26.8		
EFFICACY = 72.6 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.

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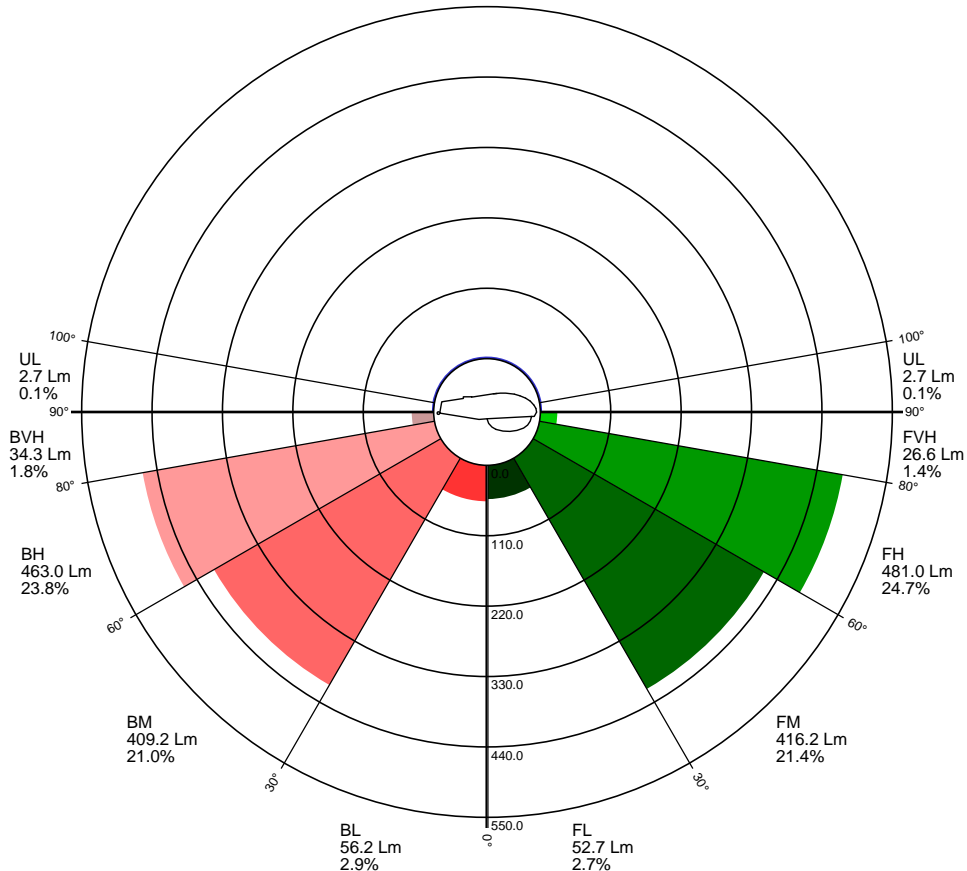
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 DATE SAMPLE TESTED: 08/04/15

BUG Rating:				B1 U1 G1		
Zonal Summary				Zone Ratings		
				B	U	G
Forward						
FL	(0° - 30°)	977	50.2			
FM	(30° - 60°)	52.7	2.7			
FH	(60° - 80°)	416.2	21.4			
FVH	(80° - 90°)	481.0	24.7			G0
		26.6	1.4			G1
Backward						
BL	(0° - 30°)	963	49.5			
BM	(30° - 60°)	56.2	2.9	B0		
BH	(60° - 80°)	409.2	21.0	B1		
		463.0	23.8	B1		G0
		34.3	1.8			G1
Upward						
UL	(90° - 100°)	6	0.3			
UH	(100° - 180°)	2.7	0.1		U1	
		3.3	0.2		U1	
Trapped Light						
Total Flux						
		0	0.0			
		1945	100.0			

Zonal Lumen Summary

(Linear scale)

UH
3.3 Lm
0.2%

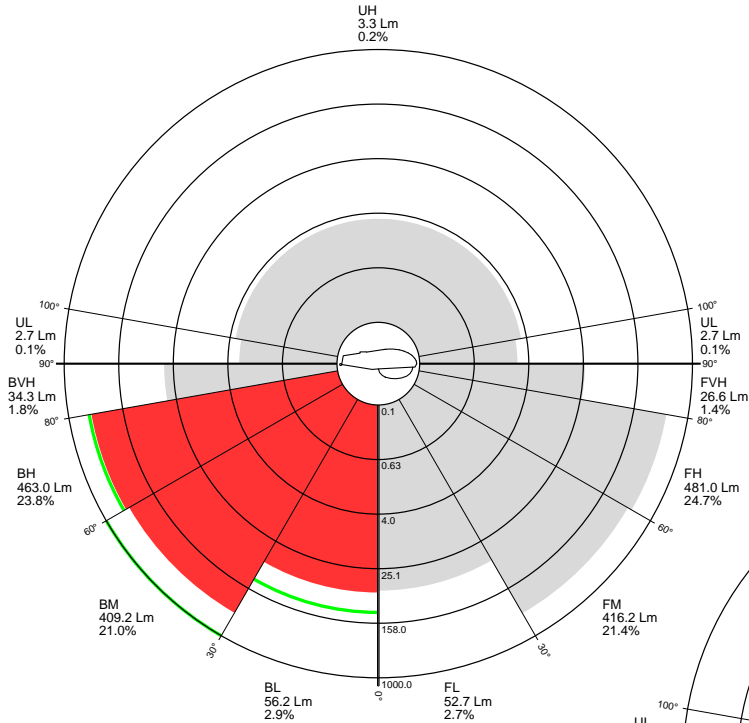


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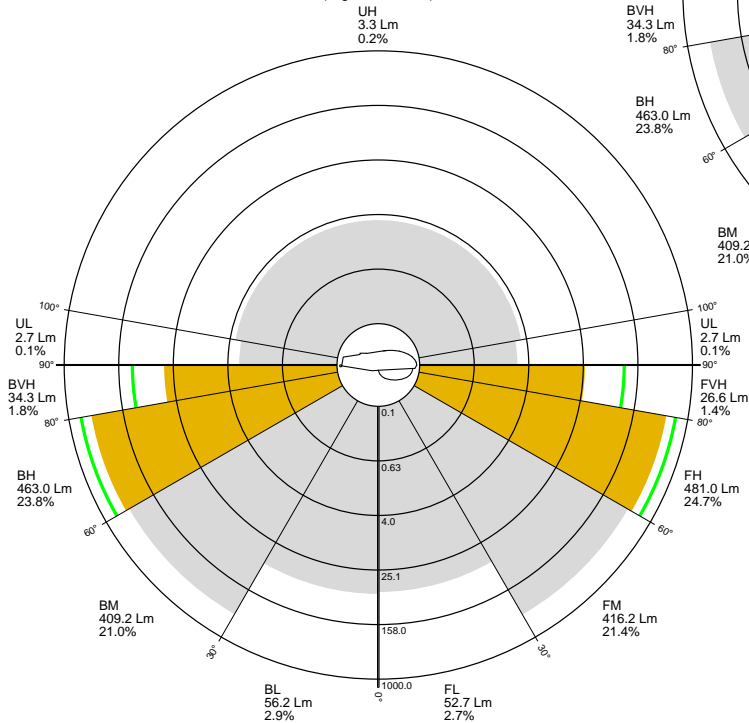
Backlight Rating Details

(Logarithmic scale)



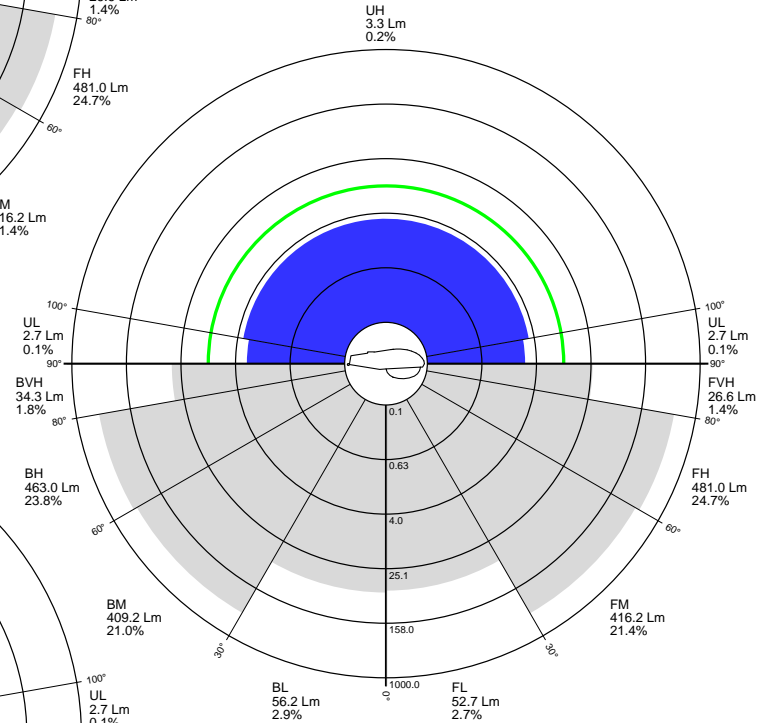
Glare Rating Details

(Logarithmic scale)



Uplight Rating Details

(Logarithmic scale)



CANDELA TABULATION		LATERAL ANGLE										
STREET	SIDE	0.0	5.0	15.0	25.0	35.0	45.0	47.5	55.0	65.0	75.0	85.0
	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	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
	105.0	3.	3.	3.	2.	2.	2.	2.	1.	2.	2.	2.
	95.0	3.	3.	3.	2.	2.	3.	3.	2.	2.	2.	2.
	90.0	2.	2.	2.	2.	2.	3.	3.	3.	3.	3.	2.
	87.5	3.	3.	3.	2.	3.	4.	5.	5.	5.	4.	4.
	85.0	10.	10.	6.	8.	10.	15.	15.	14.	13.	15.	18.
	82.5	72.	53.	58.	50.	70.	66.	72.	81.	67.	94.	116.
V	80.0	218.	152.	172.	160.	230.	239.	243.	239.	179.	224.	269.
E	77.5	385.	274.	263.	234.	340.	402.	411.	380.	269.	301.	337.
R	75.0	410.	309.	349.	317.	398.	455.	464.	455.	384.	397.	388.
T	72.5	440.	336.	429.	400.	487.	550.	563.	539.	482.	486.	481.
I	70.0	497.	367.	507.	448.	569.	709.	719.	655.	534.	558.	558.
C	68.0<<	530.	381.	541.	466.	578.	755.	766.	713.	553.	567.	608.
A	67.5	542.	386.	545.	470.	577.	752.	760.	715.	559.	571.	620.
L	65.0	570.	389.	565.	495.	547.	682.	683.	675.	568.	564.	613.
	62.5	499.	327.	536.	514.	518.	624.	638.	627.	557.	536.	564.
A	60.0	451.	300.	519.	509.	494.	579.	599.	604.	550.	523.	533.
N	57.5	423.	298.	503.	500.	466.	536.	569.	576.	537.	510.	511.
G	55.0	403.	293.	486.	484.	428.	487.	531.	539.	513.	492.	490.
L	52.5	381.	281.	466.	456.	402.	436.	472.	493.	472.	459.	466.
E	50.0	352.	266.	431.	414.	373.	398.	414.	456.	423.	418.	432.
	47.5	317.	243.	393.	384.	340.	359.	368.	426.	387.	370.	386.
	45.0	285.	218.	360.	359.	308.	323.	320.	382.	351.	332.	343.
	42.5	255.	201.	330.	329.	281.	278.	284.	334.	324.	307.	315.
	40.0	226.	183.	308.	302.	265.	234.	258.	279.	286.	292.	302.
	37.5	211.	178.	282.	280.	261.	201.	211.	227.	245.	266.	288.
	35.0	211.	184.	268.	271.	258.	206.	178.	192.	213.	243.	282.
	30.0	212.	196.	261.	256.	248.	191.	162.	142.	155.	209.	257.
	25.0	174.	169.	226.	217.	198.	137.	124.	77.	114.	167.	191.
	20.0	140.	141.	176.	154.	128.	100.	100.	96.	92.	110.	111.
	15.0	78.	77.	83.	89.	94.	97.	102.	111.	94.	83.	65.
	10.0	36.	36.	40.	44.	51.	49.	50.	54.	46.	39.	

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CANDELA TABULATION

HOUSE SIDE

LATERAL ANGLE

	90.0	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.	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.	1.	0.	0.	0.	0.	0.	1.	1.
115.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.
105.0	2.	2.	3.	3.	3.	3.	2.	2.	2.	2.	2.
95.0	2.	2.	3.	3.	3.	3.	2.	3.	3.	2.	2.
90.0	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.
87.5	4.	3.	3.	3.	4.	4.	4.	4.	6.	10.	9.
85.0	16.	16.	13.	11.	18.	22.	20.	18.	24.	37.	37.
82.5	126.	113.	66.	60.	124.	105.	104.	104.	134.	189.	201.
V 80.0	294.	269.	142.	146.	277.	247.	225.	202.	241.	317.	324.
E 77.5	344.	319.	187.	218.	358.	325.	291.	287.	312.	368.	377.
R 75.0	374.	376.	226.	299.	443.	378.	355.	414.	415.	413.	410.
T 72.5	454.	456.	284.	356.	559.	525.	427.	501.	507.	504.	485.
I 70.0	540.	542.	334.	391.	642.	639.	474.	545.	565.	576.	563.
C 68.0<<	596.	586.	346.	405.	654.	639.	481.	556.	594.	661.	657.
A 67.5	613.	604.	351.	413.	657.	631.	479.	565.	600.	673.	670.
L 65.0	622.	605.	347.	435.	641.	604.	445.	573.	584.	654.	666.
62.5	579.	575.	328.	448.	619.	601.	417.	566.	563.	610.	620.
A 60.0	544.	535.	327.	449.	602.	576.	400.	554.	548.	573.	571.
N 57.5	518.	514.	316.	448.	573.	559.	373.	527.	533.	549.	547.
G 55.0	492.	497.	304.	436.	530.	529.	344.	479.	514.	531.	522.
L 52.5	471.	473.	287.	422.	495.	491.	319.	416.	488.	507.	504.
E 50.0	439.	435.	261.	394.	459.	448.	302.	347.	448.	468.	465.
47.5	394.	385.	230.	372.	420.	406.	278.	294.	399.	419.	418.
45.0	349.	336.	200.	348.	379.	365.	254.	261.	359.	373.	372.
42.5	316.	293.	179.	322.	348.	338.	231.	240.	329.	332.	333.
40.0	301.	261.	169.	300.	318.	308.	222.	213.	307.	308.	306.
37.5	289.	235.	165.	279.	303.	290.	227.	181.	286.	286.	285.
35.0	285.	222.	164.	265.	286.	273.	225.	158.	268.	258.	256.
30.0	255.	200.	177.	248.	256.	246.	244.	157.	236.	249.	241.
25.0	178.	166.	163.	209.	208.	210.	198.	147.	149.	203.	209.
20.0	81.	78.	114.	156.	164.	155.	146.	119.	95.	124.	126.
15.0	56.	57.	64.	87.	105.	104.	102.	89.	77.	69.	70.
10.0	32.	32.	33.	38.	41.	46.	35.	35.	35.	34.	32.
5.0	22.	23.	22.	21.	23.	28.	25.	22.	21.	21.	21.
0.0	17.	17.	17.	17.	17.	17.	17.	17.	17.	17.	17.

CONE OF MAXIMUM CANDELA

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5-DEGREE ZONAL LUMEN SUMMARY

0- 5	1
5- 10	2
10- 15	8
15- 20	17
20- 25	32
25- 30	49
30- 35	68
35- 40	84
40- 45	110
45- 50	147
50- 55	189
55- 60	227
60- 65	260
65- 70	282
70- 75	240
75- 80	162
80- 85	57
85- 90	4
90- 95	1
95-100	1
100-105	1
105-110	1
110-115	1
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	3
0- 20	28
0- 30	109
0- 40	261
0- 50	518
0- 60	934
0- 70	1476
0- 80	1878
0- 90	1939
0-100	1942
0-110	1944
0-120	1945
0-130	1945
0-140	1945
0-150	1945
0-160	1945
0-170	1945
0-180	1945

REPORT NUMBER: RAB01051
DATE: 8/3/2015
PREPARED FOR: RAB LIGHTING INC.
CATALOG NUMBER: ALED5T26Y/480 (TYPE V - Short - Semicutoff)

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ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: CAST BROWN PAINTED METAL POSTTOP FITTER WITH 3 FABRICATED BROWN PAINTED METAL VERTICAL POSTS, CAST 2-PIECE BROWN PAINTED FINNED METAL HOUSING, 4 CAST METAL HEAT SINKS/CIRCUIT BOARD MOUNTING BRACKETS, 4 CIRCUIT BOARDS EACH WITH 1 LED AND MOLDED PLASTIC CIRCUIT BOARD PERIMETER OVERLAY WITH SPECULAR FINISH, MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH AND 1 APERTURE PER LED, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.

LAMP: FOUR WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDs), AIMED AT THE HORIZON.

DRIVER: RD-LT40-A0700-60PF

OBJECT OF TEST: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT THE RATED INPUT VOLTAGES (347.0 AND 480.0 VAC, 60Hz) TO THE TEST SAMPLE.

INSTRUMENTS:	CHROMA PROGRAMMABLE AC POWER SOURCE MODEL 61602	Calibration Due: N/A
	CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202	3/9/16
	OCEAN OPTICS QE65PRO Spectroradiometer	7/24/16
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	7/24/16

OBJECT OF TEST: Measure the Absolute Flux in lumens*, 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. Measure electrical data including Total Harmonic Distortion (THD) at maximum nominal rated input voltage. Report Off-State Power.

PROCEDURE: The test sample was mounted inside the integrating sphere, energized, 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 60 HZ input in a 25 +/-1 degree Celsius free air ambient and in accordance with IESNA LM-79-08. Electrical data was also recorded at maximum nominal rated input voltage (480.0 VAC). 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)

Checked	<u>X.CAO</u>
Approved	<u>D.WANG-MUNSON</u> Lighting Engineer

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RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	1945 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4348
Chromaticity Ordinate y	0.4091
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2470
Chromaticity Ordinate v'	0.5230
Correlated Color Temp CCT (K)	3077
ANSI C78.377-2008 Duv	0.002
Total Radiant Flux (milliWatts)	5781 *
ELECTRICAL	
Input Voltage (Volts AC)	347.0
Input Current (Amps AC)	0.077
Input Power (Watts)	26.5
Input Power Factor (%)	99.2
Input Current THD (%)	8.8
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	73.4
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	480.0
Input Current (Amps AC)	0.062
Input Power (Watts)	26.8
Input Power Factor (%)	90.1
Input Current THD (%)	6.9
Input Voltage THD (%)	0.2
Off-State Power (Watts)	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	84
R1 Light greyish red	82
R2 Dark greyish yellow	90
R3 Strong yellowish green	97
R4 Moderate yellowish green	85
R5 Light bluish green	83
R6 Light blue	89
R7 Light violet	85
R8 Light reddish purple	61
R9 Strong red	8
R10 Strong yellow	77
R11 Strong green	85
R12 Strong blue	67
R13 Light yellowish pink (skin)	84
R14 Moderate olive green (leaf)	98

*NOTE:

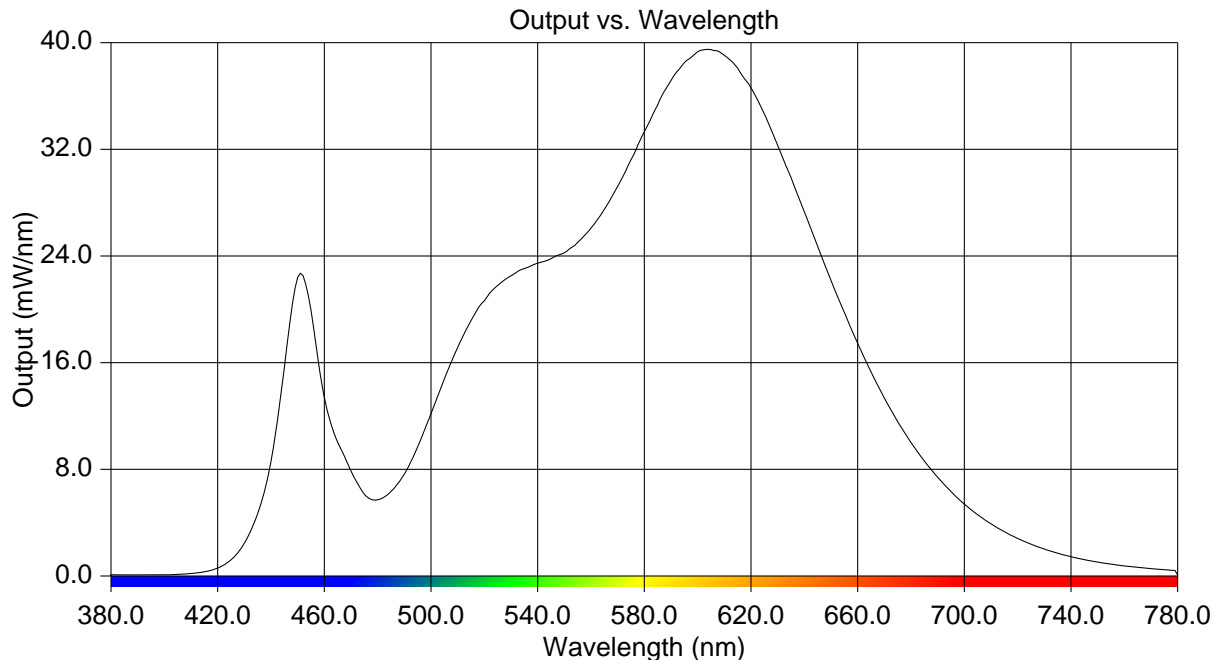
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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.

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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.087	515	19.155	650	22.159
385	0.078	520	20.649	655	19.769
390	0.081	525	21.803	660	17.429
395	0.082	530	22.518	665	15.287
400	0.094	535	23.059	670	13.342
405	0.118	540	23.457	675	11.572
410	0.176	545	23.802	680	10.018
415	0.314	550	24.245	685	8.628
420	0.594	555	25.022	690	7.400
425	1.199	560	26.075	695	6.331
430	2.453	565	27.513	700	5.390
435	4.678	570	29.229	705	4.599
440	8.595	575	31.222	710	3.912
445	15.638	580	33.322	715	3.320
450	22.394	585	35.321	720	2.813
455	19.938	590	37.156	725	2.380
460	13.386	595	38.506	730	2.009
465	10.024	600	39.325	735	1.713
470	7.866	605	39.477	740	1.440
475	6.140	610	39.051	745	1.224
480	5.706	615	38.088	750	1.048
485	6.349	620	36.653	755	0.888
490	7.649	625	34.656	760	0.758
495	9.688	630	32.248	765	0.645
500	12.175	635	29.896	770	0.550
505	14.748	640	27.303	775	0.471
510	17.117	645	24.705	780	0.070



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CIE Chromaticity Diagram

