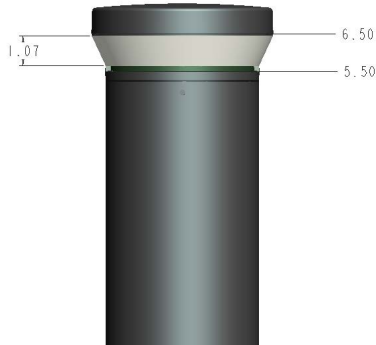
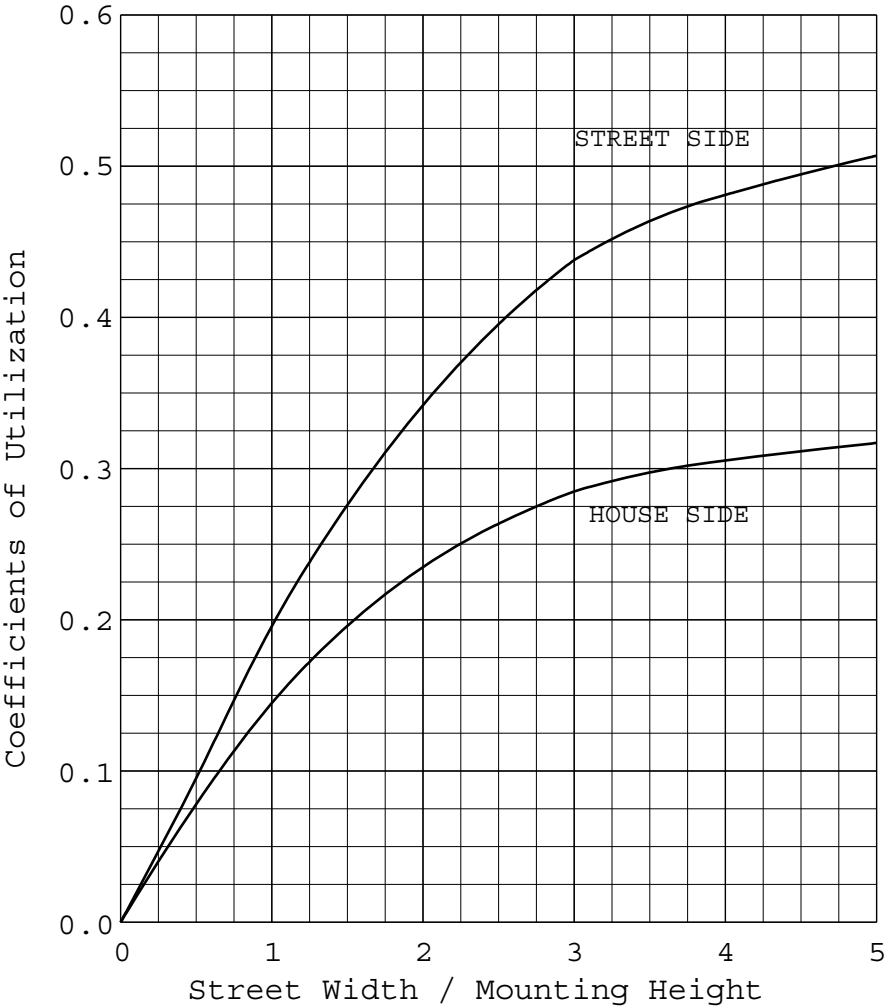


COEFFICIENTS OF UTILIZATION AND FLUX DISTRIBUTION



REPORT NUMBER: PRORATED FROM RAB03689
 ISSUE DATE: 08/29/17 PAGE: 1 OF 11
 PREPARED FOR: RAB LIGHTING INC. RC
 LIGHTING
 CATALOG NUMBER: BLEDR12, BLEDR12/D10,
 BDLEDR12, BDLEDR12/D10 (42" ROUND
 BOLLARD W/LED @ 90-DEGREES)
 LUMINAIRE: EXTRUDED BROWN PAINTED
 CYLINDRICAL METAL LOWER HOUSING, CAST
 METAL TOP, CAST FINNED METAL HEAT
 SINK WITH WHITE PAINTED INTERIOR,
 MOLDED SPECULAR FINISHED PLASTIC
 REFLECTOR, 2 WHITE CIRCUIT BOARDS
 EACH WITH 3 LEDS, 2 WHITE CIRCUIT
 BOARDS EACH WITH 2 LEDS, FROSTED
 PLASTIC LENS, CAST BROWN PAINTED
 METAL BOTTOM.
 (SEE PAGE 2 FOR MORE INFORMATION)



	PERCENT LUMENS OF FIXTURE
DOWNWARD STREET SIDE	735. 56.1
DOWNWARD HOUSE SIDE	450. 34.3
DOWNWARD TOTAL	1184. 90.4
UPWARD STREET SIDE	75. 5.7
UPWARD HOUSE SIDE	51. 3.9
UPWARD TOTAL	126. 9.6
TOTAL FLUX	1310. 100.0

TOTAL INPUT WATTS = 12

EFFICACY = 109.2 Lm/W

Checked

X.CAO

Approved

D.WANG-MUNSON

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.

REPORT NUMBER: PRORATED FROM RAB03689
ISSUE DATE: 08/29/17
PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

PAGE: 2 OF 11

ADDITIONAL INFORMATION

LAMP: TEN LIGHT EMITTING DIODES (LEDs).

NOTE: THIS REPORT WAS PRORATED FROM RAB03689 WHICH WAS BLED R12Y,
BLED R12Y/D10, BDLED R12Y, BDLED R12Y/D10. ACTUAL PERFORMANCE MAY
VARY.

TOTAL INPUT WATTS = 12.0 W AT 277.0 VAC.

LED DRIVER: RDD-15W-032SE-A0350

TEST PROCEDURE: IESNA LM-79-08

LM-80 DATA AVAILABLE FROM MANUFACTURER FOR SOLID STATE SOURCE

REPORT NUMBER: PRORATED FROM RAB03689

ISSUE DATE: 08/29/17

PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

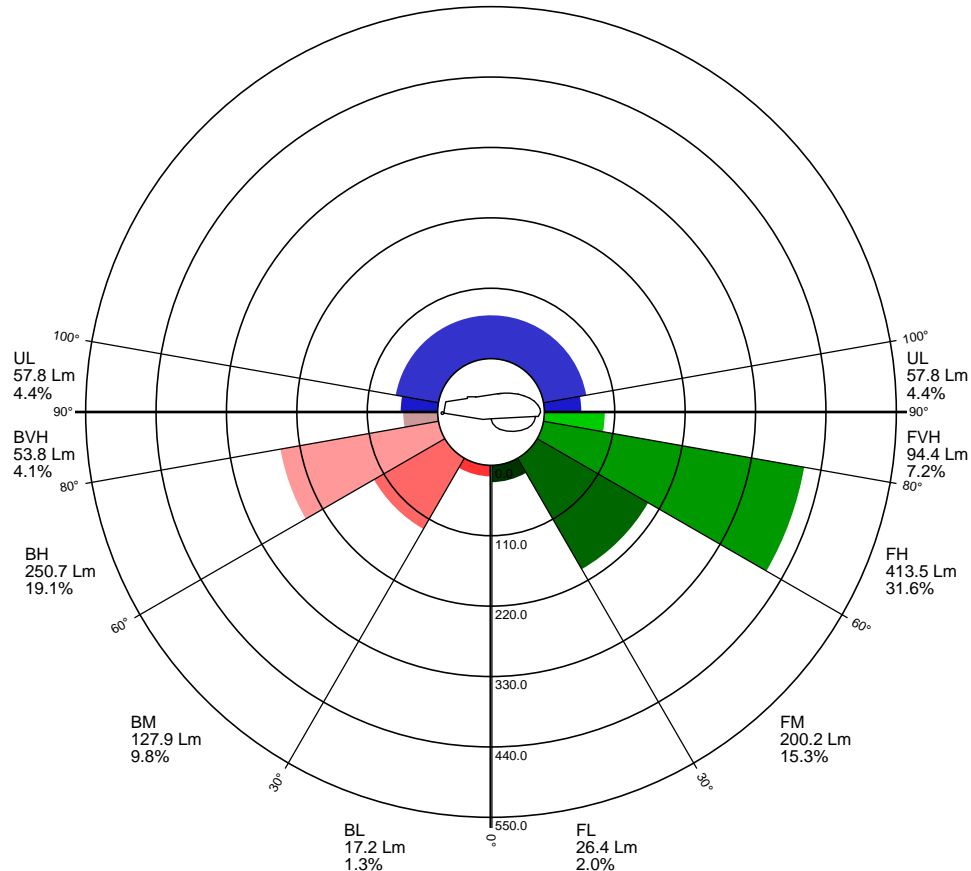
PAGE: 3 OF 11

BUG Rating:				B1 U3 G1		
Zonal Summary		Lumens	% of Fixture	Zone Ratings		
				B	U	G
Forward		735	56.1			
FL	(0° - 30°)	26.4	2.0			
FM	(30° - 60°)	200.2	15.3			
FH	(60° - 80°)	413.5	31.6			G0
FVH	(80° - 90°)	94.4	7.2			G1
Backward		450	34.3			
BL	(0° - 30°)	17.2	1.3	B0		
BM	(30° - 60°)	127.9	9.8	B0		
BH	(60° - 80°)	250.7	19.1	B1		G1
BVH	(80° - 90°)	53.8	4.1			G1
Upward		126	9.6			
UL	(90° - 100°)	57.8	4.4		U3	
UH	(100° - 180°)	67.8	5.2		U3	
Trapped Light		0	0.0			
Total Flux		1310	100.0			

Zonal Lumen Summary

(Linear scale)

UH
67.8 Lm
5.2%

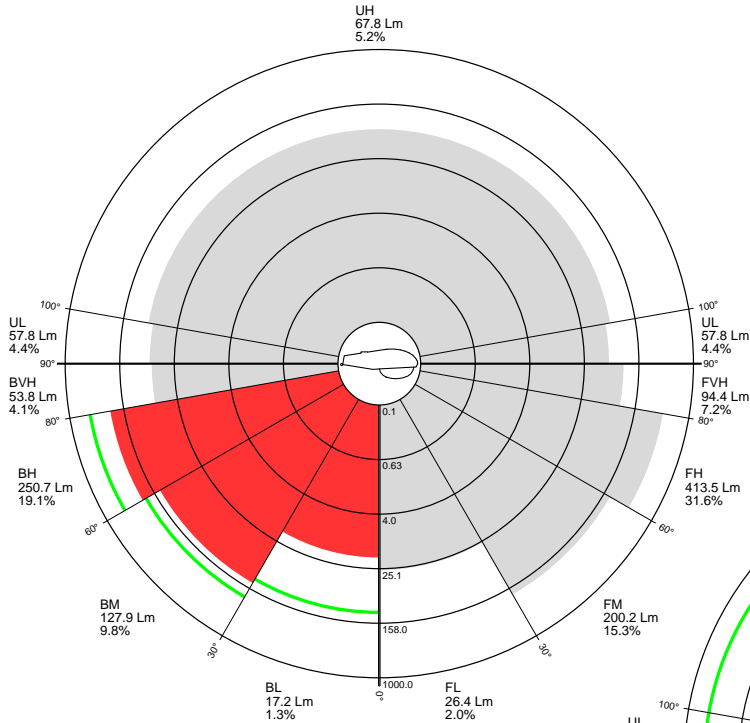


REPORT NUMBER: PRORATED FROM RAB03689
 ISSUE DATE: 08/29/17
 PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

PAGE: 4 OF 11

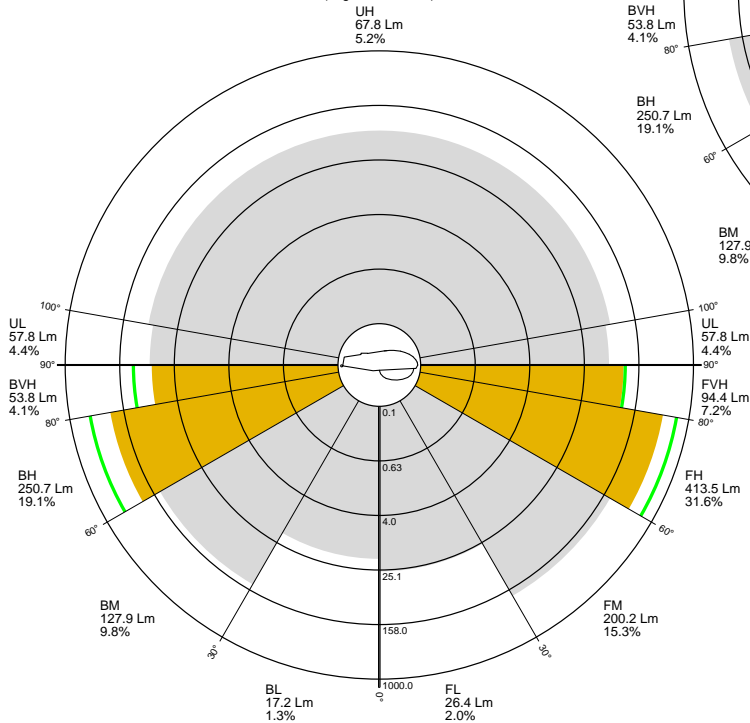
Backlight Rating Details

(Logarithmic scale)



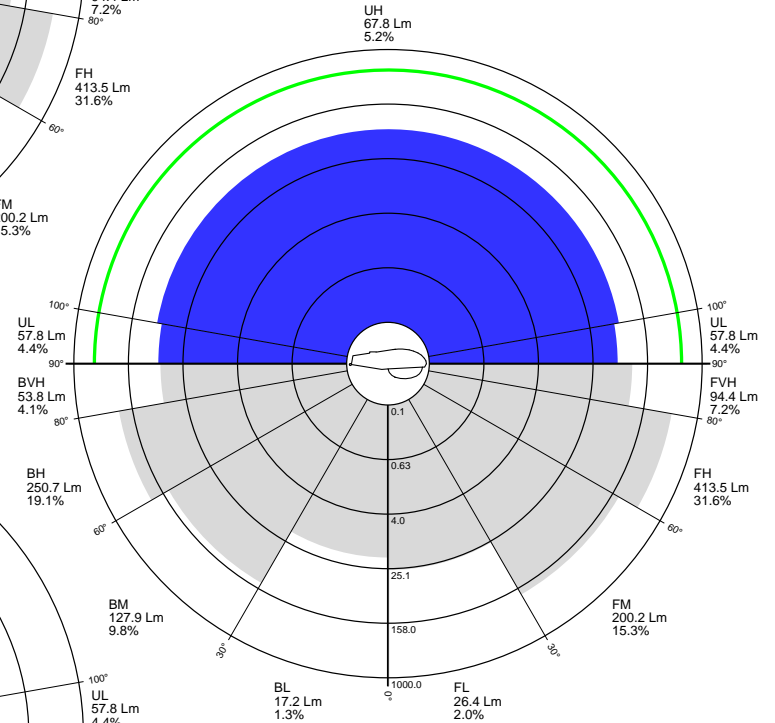
Glare Rating Details

(Logarithmic scale)



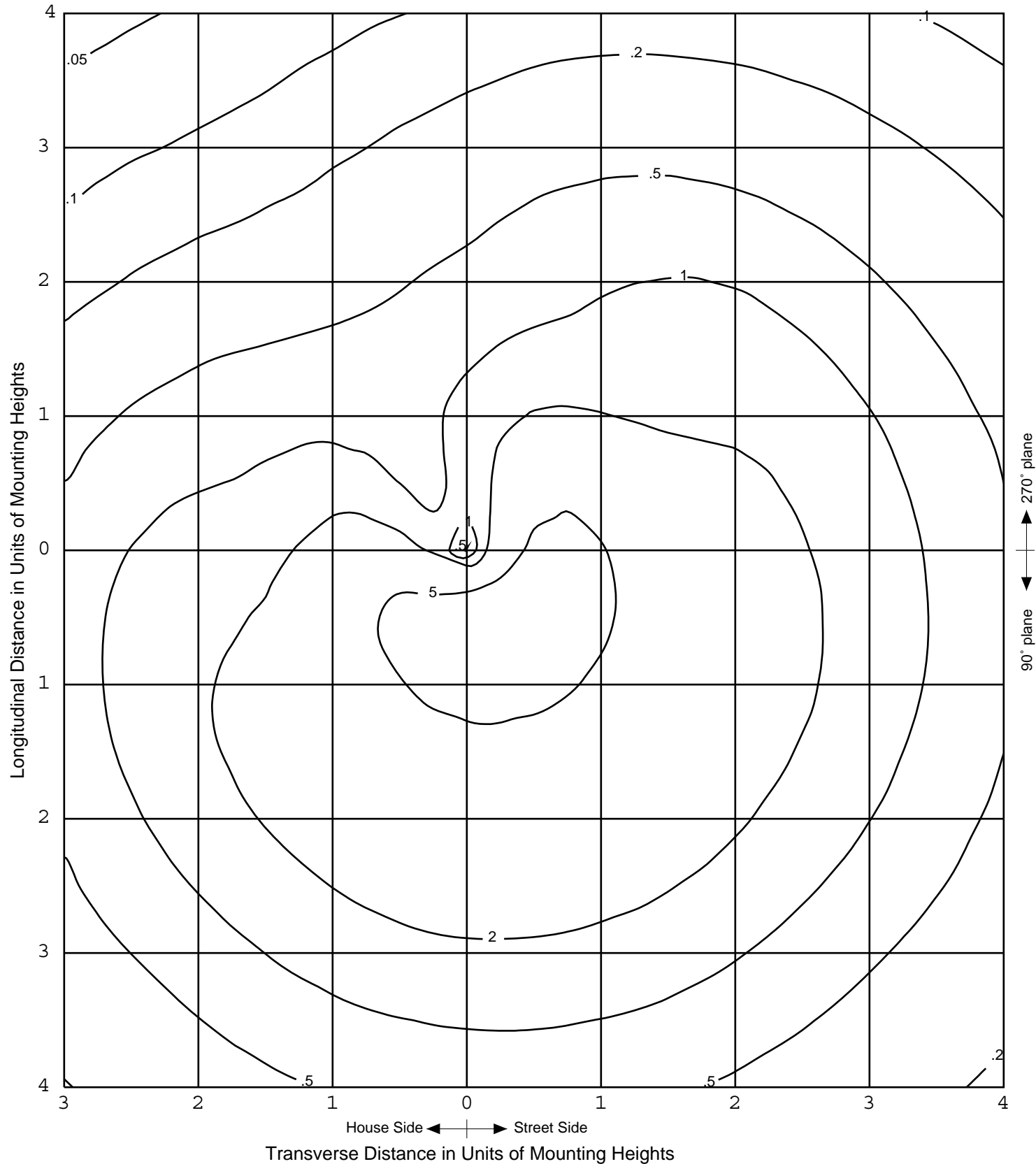
Uplight Rating Details

(Logarithmic scale)



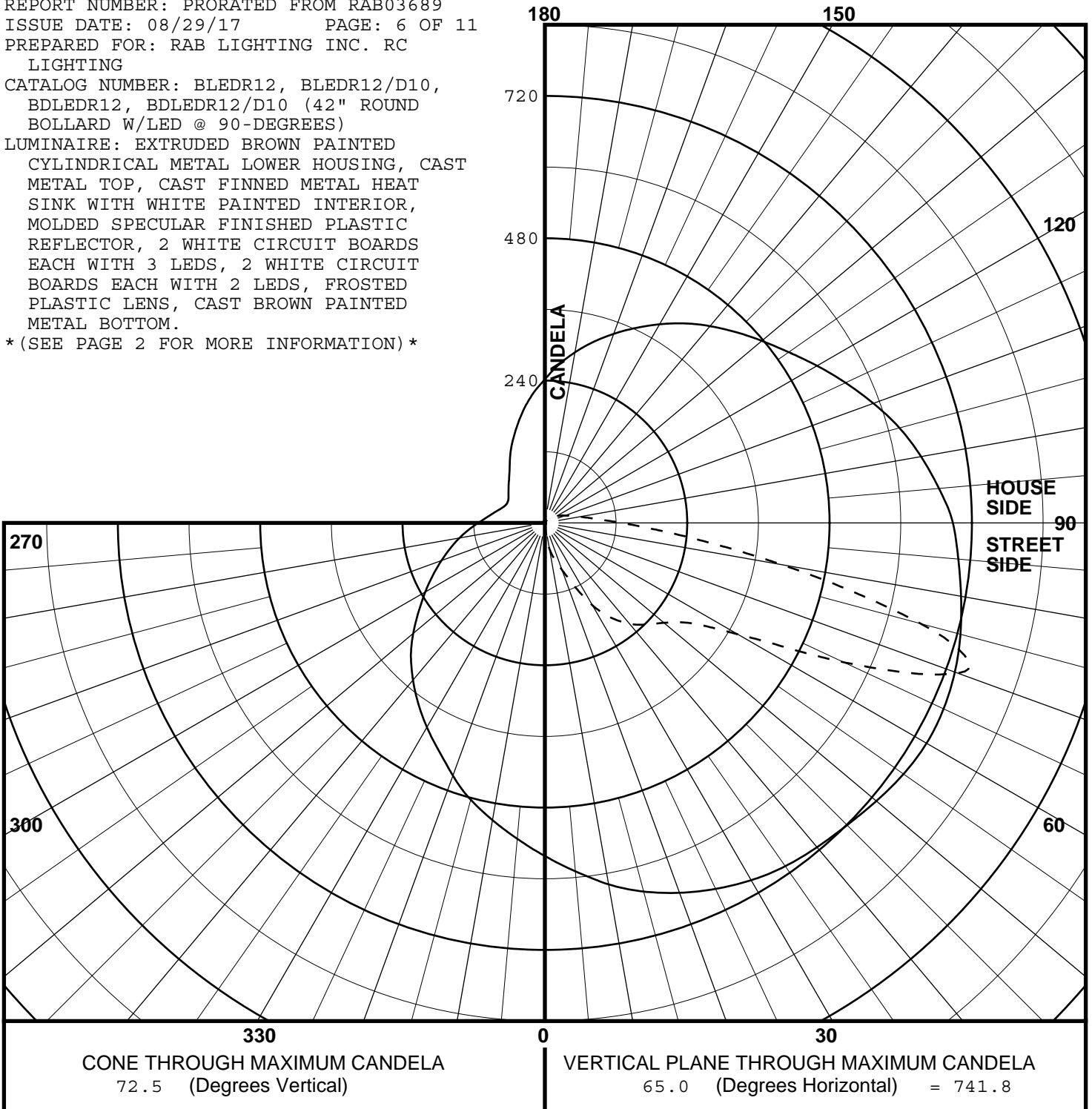
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ISOFOOTCANDLE LINES OF HORIZONTAL ILLUMINATION
Values based on 3.5 foot mounting height.



MAXIMUM PLANE AND MAXIMUM CONE PLOTS OF CANDELA

REPORT NUMBER: PRORATED FROM RAB03689
 ISSUE DATE: 08/29/17 PAGE: 6 OF 11
 PREPARED FOR: RAB LIGHTING INC. RC
 LIGHTING
 CATALOG NUMBER: BLEDR12, BLEDR12/D10,
 BDLEDR12, BDLEDR12/D10 (42" ROUND
 BOLLARD W/LED @ 90-DEGREES)
 LUMINAIRE: EXTRUDED BROWN PAINTED
 CYLINDRICAL METAL LOWER HOUSING, CAST
 METAL TOP, CAST FINNED METAL HEAT
 SINK WITH WHITE PAINTED INTERIOR,
 MOLDED SPECULAR FINISHED PLASTIC
 REFLECTOR, 2 WHITE CIRCUIT BOARDS
 EACH WITH 3 LEDS, 2 WHITE CIRCUIT
 BOARDS EACH WITH 2 LEDS, FROSTED
 PLASTIC LENS, CAST BROWN PAINTED
 METAL BOTTOM.
 (SEE PAGE 2 FOR MORE INFORMATION)



REPORT NUMBER: PRORATED FROM RAB03689
 ISSUE DATE: 08/29/17
 PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

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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
	180.0	2.	2.	2.	2.	2.	2.	2.	2.	2.
	175.0	0.	0.	0.	1.	1.	1.	2.	2.	4.
	165.0	0.	0.	0.	1.	1.	1.	1.	2.	2.
	155.0	1.	1.	1.	1.	1.	1.	2.	2.	2.
	145.0	4.	4.	4.	5.	5.	5.	5.	5.	5.
	135.0	8.	8.	8.	9.	9.	9.	11.	11.	11.
	125.0	14.	15.	16.	16.	18.	18.	18.	18.	18.
	115.0	23.	25.	26.	27.	28.	28.	28.	29.	28.
	105.0	37.	40.	41.	42.	44.	46.	46.	46.	44.
	95.0	69.	71.	76.	80.	83.	84.	84.	83.	81.
	90.0	108.	112.	122.	125.	130.	130.	131.	130.	125.
	87.5	139.	143.	158.	163.	170.	170.	170.	168.	163.
	85.0	183.	188.	205.	215.	225.	225.	225.	225.	215.
V	82.5	246.	259.	275.	289.	302.	301.	303.	303.	291.
E	80.0	325.	344.	367.	387.	404.	401.	407.	406.	392.
R	77.5	421.	442.	475.	500.	523.	519.	528.	528.	511.
T	75.0	511.	531.	584.	615.	640.	644.	655.	656.	638.
I	72.5<<	562.	590.	644.	681.	707.	721.	738.	742.	725.
C	70.0	545.	573.	621.	662.	688.	717.	736.	741.	731.
A	67.5	477.	503.	539.	579.	605.	639.	656.	660.	658.
L	65.0	398.	419.	442.	475.	500.	528.	542.	556.	550.
	62.5	323.	340.	362.	388.	410.	428.	438.	450.	447.
A	60.0	269.	283.	303.	325.	343.	360.	366.	376.	376.
N	57.5	235.	247.	266.	285.	301.	315.	318.	325.	326.
G	55.0	214.	223.	241.	260.	274.	285.	289.	294.	294.
L	52.5	201.	209.	226.	243.	257.	268.	273.	275.	273.
E	50.0	192.	200.	215.	232.	246.	256.	260.	262.	259.
	47.5	185.	193.	208.	223.	238.	247.	250.	252.	248.
	45.0	180.	187.	201.	216.	229.	239.	241.	242.	239.
	42.5	174.	181.	194.	209.	221.	229.	232.	233.	230.
	40.0	167.	174.	186.	200.	211.	219.	221.	222.	220.
	37.5	159.	166.	178.	190.	199.	206.	209.	209.	209.
	35.0	149.	156.	167.	177.	185.	192.	197.	195.	195.
	30.0	121.	126.	138.	144.	150.	156.	160.	160.	160.
	25.0	87.	91.	99.	105.	109.	113.	117.	117.	118.
	20.0	62.	64.	70.	74.	77.	81.	83.	84.	83.
	15.0	48.	49.	53.	56.	58.	62.	62.	63.	62.
	10.0	34.	34.	37.	40.	41.	43.	44.	44.	44.
	5.0	4.	7.	6.	7.	5.	6.	5.	5.	4.
	0.0	1.	1.	1.	1.	1.	1.	1.	1.	1.

||
 PLANE OF MAXIMUM CANDELA

CONE OF MAXIMUM CANDELA

REPORT NUMBER: PRORATED FROM RAB03689
 ISSUE DATE: 08/29/17
 PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

PAGE: 8 OF 11

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	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
	175.0	4.	4.	5.	5.	5.	5.	5.	5.	5.	5.
	165.0	2.	2.	4.	4.	4.	4.	4.	4.	4.	4.
	155.0	2.	4.	2.	4.	4.	4.	4.	4.	4.	4.
	145.0	5.	6.	5.	5.	5.	5.	5.	5.	4.	4.
	135.0	11.	11.	9.	9.	9.	8.	8.	7.	6.	5.
	125.0	18.	18.	16.	16.	15.	14.	13.	12.	9.	9.
	115.0	28.	28.	26.	25.	23.	21.	20.	18.	16.	14.
	105.0	43.	43.	41.	39.	35.	33.	30.	27.	25.	22.
	95.0	77.	76.	71.	67.	61.	56.	50.	46.	40.	35.
	90.0	117.	116.	108.	102.	90.	82.	71.	64.	56.	49.
	87.5	152.	151.	136.	130.	117.	104.	91.	81.	70.	61.
	85.0	201.	199.	179.	167.	154.	138.	118.	104.	90.	78.
V	82.5	273.	268.	248.	232.	209.	185.	158.	138.	118.	103.
E	80.0	369.	363.	335.	303.	273.	248.	213.	185.	158.	137.
R	77.5	483.	474.	436.	399.	359.	326.	283.	247.	213.	179.
T	75.0	592.	580.	544.	497.	441.	406.	357.	314.	270.	227.
I	72.5<<	688.	667.	619.	559.	502.	455.	411.	363.	316.	268.
C	70.0	697.	683.	633.	573.	522.	472.	426.	377.	326.	280.
A	67.5	635.	628.	596.	536.	501.	449.	405.	353.	308.	259.
L	65.0	536.	532.	514.	467.	447.	404.	357.	308.	266.	219.
	62.5	438.	436.	425.	402.	381.	340.	301.	257.	221.	181.
A	60.0	373.	366.	357.	337.	318.	284.	250.	215.	185.	153.
N	57.5	319.	314.	304.	287.	269.	240.	213.	185.	160.	135.
G	55.0	284.	278.	268.	250.	233.	209.	187.	164.	144.	123.
L	52.5	262.	255.	243.	226.	208.	190.	171.	150.	133.	115.
E	50.0	247.	241.	228.	209.	193.	176.	159.	140.	125.	109.
	47.5	236.	230.	216.	198.	183.	166.	151.	133.	118.	103.
	45.0	227.	221.	207.	190.	174.	159.	144.	128.	113.	98.
	42.5	219.	213.	199.	183.	167.	151.	137.	122.	108.	94.
	40.0	209.	204.	191.	176.	160.	145.	131.	116.	103.	89.
	37.5	200.	195.	183.	167.	153.	138.	124.	110.	97.	83.
	35.0	188.	184.	173.	158.	145.	130.	117.	103.	90.	76.
	30.0	157.	152.	146.	136.	125.	112.	101.	88.	75.	61.
	25.0	116.	112.	109.	103.	96.	87.	77.	67.	56.	46.
	20.0	81.	80.	77.	73.	68.	61.	55.	48.	41.	35.
	15.0	60.	58.	56.	54.	49.	46.	41.	36.	33.	28.
	10.0	42.	41.	39.	36.	33.	30.	28.	25.	22.	19.
	5.0	5.	5.	4.	5.	6.	4.	6.	5.	5.	4.
	0.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.

CONE OF MAXIMUM CANDELA

REPORT NUMBER: PRORATED FROM RAB03689
 ISSUE DATE: 08/29/17
 PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

PAGE: 9 OF 11

CANDELA TABULATION

HOUSE SIDE		LATERAL ANGLE									
		180.0	185.0	195.0	205.0	215.0	225.0	235.0	245.0	255.0	265.0
	180.0	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
	175.0	5.	5.	5.	4.	4.	4.	2.	2.	1.	1.
	165.0	4.	4.	4.	4.	4.	2.	2.	2.	1.	1.
	155.0	4.	4.	2.	2.	2.	2.	2.	2.	1.	1.
	145.0	4.	4.	2.	2.	2.	2.	2.	1.	1.	1.
	135.0	5.	5.	4.	4.	4.	2.	2.	2.	2.	2.
	125.0	8.	7.	6.	6.	5.	5.	4.	4.	4.	5.
	115.0	13.	12.	11.	9.	8.	7.	7.	7.	7.	7.
	105.0	20.	19.	16.	15.	13.	12.	12.	12.	12.	13.
	95.0	33.	30.	27.	23.	21.	20.	20.	19.	20.	21.
	90.0	46.	43.	37.	33.	30.	28.	27.	27.	28.	29.
	87.5	56.	54.	46.	41.	37.	35.	33.	33.	35.	36.
	85.0	73.	68.	57.	51.	44.	43.	41.	40.	43.	44.
V	82.5	94.	88.	76.	64.	56.	53.	49.	48.	53.	56.
E	80.0	124.	115.	97.	81.	68.	63.	57.	56.	63.	69.
R	77.5	161.	147.	123.	99.	82.	73.	66.	64.	73.	83.
T	75.0	204.	186.	149.	118.	94.	81.	70.	69.	78.	94.
I	72.5<<	242.	220.	174.	136.	104.	87.	75.	73.	82.	99.
C	70.0	256.	232.	186.	143.	111.	90.	76.	74.	83.	97.
A	67.5	238.	213.	174.	136.	109.	89.	75.	73.	80.	91.
L	65.0	200.	179.	147.	118.	98.	82.	71.	68.	73.	82.
	62.5	165.	147.	122.	101.	87.	73.	66.	62.	64.	73.
A	60.0	139.	126.	105.	89.	76.	63.	57.	55.	57.	66.
N	57.5	124.	112.	96.	82.	69.	56.	50.	49.	51.	61.
G	55.0	113.	104.	90.	76.	62.	50.	43.	42.	46.	55.
L	52.5	106.	98.	84.	70.	57.	46.	37.	36.	41.	50.
E	50.0	102.	94.	80.	66.	53.	41.	33.	32.	37.	46.
	47.5	96.	89.	75.	61.	48.	37.	29.	28.	34.	42.
	45.0	91.	84.	70.	56.	43.	34.	27.	26.	30.	39.
	42.5	87.	78.	64.	51.	40.	30.	25.	23.	27.	35.
	40.0	81.	73.	58.	46.	35.	27.	22.	22.	25.	32.
	37.5	75.	67.	54.	41.	30.	25.	20.	20.	22.	28.
	35.0	69.	61.	48.	36.	27.	22.	19.	19.	20.	25.
	30.0	55.	49.	39.	29.	22.	19.	16.	16.	18.	21.
	25.0	42.	37.	30.	23.	20.	16.	15.	15.	15.	18.
	20.0	32.	29.	25.	20.	16.	15.	13.	13.	14.	15.
	15.0	26.	25.	21.	18.	15.	13.	12.	12.	13.	14.
	10.0	16.	15.	13.	9.	8.	6.	5.	5.	6.	7.
	5.0	4.	2.	2.	2.	2.	1.	1.	1.	1.	1.
	0.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.

CONE OF MAXIMUM CANDELA

REPORT NUMBER: PRORATED FROM RAB03689
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 PREPARED FOR: RAB LIGHTING INC. RC LIGHTING

PAGE: 10 OF 11

CANDELA TABULATION

STREET SIDE		LATERAL ANGLE										
		270.0	275.0	285.0	295.0	305.0	315.0	325.0	335.0	345.0	355.0	360.0
	180.0	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.
	175.0	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.	0.
	165.0	1.	1.	1.	0.	0.	0.	0.	0.	0.	0.	0.
	155.0	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	1.
	145.0	1.	1.	1.	1.	1.	2.	2.	2.	2.	4.	4.
	135.0	2.	2.	2.	4.	4.	5.	5.	6.	7.	7.	8.
	125.0	5.	5.	6.	7.	7.	8.	11.	12.	13.	14.	14.
	115.0	8.	8.	9.	12.	13.	15.	16.	19.	21.	22.	23.
	105.0	14.	14.	16.	19.	21.	25.	28.	30.	34.	36.	37.
	95.0	22.	25.	28.	33.	39.	43.	49.	55.	61.	67.	69.
	90.0	32.	34.	40.	47.	56.	64.	75.	84.	95.	102.	108.
	87.5	40.	42.	49.	58.	71.	82.	96.	108.	122.	132.	139.
	85.0	48.	51.	62.	75.	91.	106.	124.	140.	159.	176.	183.
V	82.5	61.	66.	80.	96.	118.	139.	163.	185.	211.	233.	246.
E	80.0	75.	82.	101.	123.	152.	181.	212.	242.	277.	307.	325.
R	77.5	91.	102.	128.	157.	195.	233.	273.	311.	358.	397.	421.
T	75.0	105.	119.	152.	190.	236.	285.	333.	381.	435.	481.	511.
I	72.5<<	112.	129.	165.	208.	260.	319.	372.	424.	483.	535.	562.
C	70.0	109.	124.	159.	202.	255.	317.	367.	424.	475.	523.	545.
A	67.5	99.	111.	140.	179.	225.	281.	325.	377.	421.	459.	477.
L	65.0	88.	97.	119.	150.	186.	232.	267.	309.	345.	383.	398.
	62.5	78.	85.	103.	126.	154.	187.	215.	249.	277.	310.	323.
A	60.0	71.	77.	94.	112.	135.	159.	181.	208.	230.	257.	269.
N	57.5	66.	71.	87.	104.	123.	143.	161.	184.	202.	226.	235.
G	55.0	60.	67.	81.	97.	115.	131.	150.	170.	187.	206.	214.
L	52.5	55.	61.	76.	92.	108.	124.	140.	160.	177.	194.	201.
E	50.0	50.	57.	71.	88.	103.	118.	135.	152.	170.	185.	192.
	47.5	47.	53.	67.	83.	97.	113.	129.	146.	164.	179.	185.
	45.0	43.	49.	62.	78.	92.	108.	123.	140.	158.	173.	180.
	42.5	39.	44.	57.	73.	88.	102.	117.	135.	151.	167.	174.
	40.0	35.	40.	51.	67.	82.	96.	111.	128.	143.	159.	167.
	37.5	32.	36.	47.	61.	75.	89.	104.	119.	135.	152.	159.
	35.0	28.	32.	42.	54.	68.	82.	96.	111.	125.	142.	149.
	30.0	23.	26.	33.	42.	53.	66.	77.	90.	103.	116.	121.
	25.0	20.	21.	27.	33.	40.	49.	57.	68.	76.	83.	87.
	20.0	16.	19.	22.	27.	32.	36.	43.	49.	54.	60.	62.
	15.0	15.	16.	19.	22.	26.	29.	34.	39.	42.	46.	48.
	10.0	8.	9.	12.	14.	16.	20.	23.	27.	29.	33.	34.
	5.0	1.	1.	1.	2.	2.	4.	4.	6.	5.	6.	4.
	0.0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.

CONE OF MAXIMUM CANDELA

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5-DEGREE ZONAL LUMEN SUMMARY

0- 5	0
5- 10	1
10- 15	4
15- 20	7
20- 25	12
25- 30	20
30- 35	29
35- 40	38
40- 45	48
45- 50	57
50- 55	68
55- 60	88
60- 65	125
65- 70	182
70- 75	203
75- 80	155
80- 85	94
85- 90	55
90- 95	34
95-100	24
100-105	18
105-110	13
110-115	10
115-120	8
120-125	6
125-130	4
130-135	3
135-140	2
140-145	1
145-150	1
150-155	1
155-160	0
160-165	0
165-170	0
170-175	0
175-180	0

10-DEGREE ZONAL LUMEN SUMMARY

0- 10	1
0- 20	12
0- 30	44
0- 40	111
0- 50	216
0- 60	372
0- 70	679
0- 80	1036
0- 90	1184
0-100	1242
0-110	1273
0-120	1291
0-130	1301
0-140	1306
0-150	1308
0-160	1309
0-170	1310
0-180	1310