

REPORT NUMBER: RAB01899  
 ISSUE DATE: 04/26/16  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: BULLET12N

PAGE: 1 OF 7  
 DATE SAMPLE TESTED: 04/26/16

LUMINAIRE: CAST FINNED METAL HEAT SINK, MOLDED TEXTURED PLASTIC REFLECTOR WITH SEMI-DIFFUSE FINISH, 1 CIRCUIT BOARD WITH 24 LEDS, CLEAR MICRO-PRISMATIC GLASS LENS IN CAST BROWN PAINTED METAL FRAME, LENS PRISMS OUT.

LAMPS: TWENTY-FOUR WHITE LIGHT EMITTING DIODES (LEDS), AIMED AT THE HORIZON.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

TOTAL INPUT WATTS =13.153 AT 120.0 VAC.

LED DRIVER: INTEGRAL

TEST PROCEDURE: IESNA LM-79-08

\*(SEE PAGE 2 FOR MORE INFORMATION)\*

FLOODLIGHT CHARACTERISTICS

IES TYPE	6H X 6V				
MAXIMUM CANDLEPOWER	666. AT	0.0 H,	-3.0 V		
HORIZONTAL BEAM ANGLE (50%)	91.9 deg			AXIAL CANDLEPOWER	
VERTICAL BEAM ANGLE (50%)	85.6 deg				
HORIZONTAL FIELD ANGLE (10%)	127.0 deg		DEG	HORIZ.	DEG VERT.
VERTICAL FIELD ANGLE (10%)	127.0 deg				
BEAM LUMENS (% FIXTURE)	950. ( 75.1 % )	90.0	0.	90.0	0.
FIELD LUMENS (% FIXTURE)	1209. ( 95.6 % )	85.0	2.	85.0	0.
TOTAL LUMENS (% FIXTURE)	1264. (100.0 % )	75.0	13.	75.0	16.
TOTAL INPUT WATTS = 13.2		65.0	52.	65.0	66.
EFFICACY = 95.8 Lm/W		55.0	148.	55.0	180.
		47.5	253.	47.5	293.
		42.5	334.	42.5	385.
		37.5	426.	37.5	474.
		33.0	495.	33.0	536.
		29.0	546.	29.0	577.
		25.5	584.	25.5	608.
		22.5	605.	22.5	628.
		19.5	624.	19.5	633.
		17.0	634.	17.0	639.
		15.0	642.	15.0	643.
		13.0	647.	13.0	645.
		11.0	651.	11.0	651.
		9.0	655.	9.0	655.
		7.0	658.	7.0	659.
		5.0	659.	5.0	657.
		3.0	662.	3.0	656.
		1.0	662.	1.0	658.
		0.0	662.	0.0	662.
		-1.0	662.	-1.0	666.
		-3.0	662.	-3.0	666.
		-5.0	659.	-5.0	663.
		-7.0	658.	-7.0	659.
		-9.0	655.	-9.0	656.
		-11.0	651.	-11.0	653.
		-13.0	647.	-13.0	646.
		-15.0	642.	-15.0	639.
		-17.0	634.	-17.0	632.
		-19.5	624.	-19.5	617.
		-22.5	605.	-22.5	600.
		-25.5	584.	-25.5	565.
		-29.0	546.	-29.0	517.
		-33.0	495.	-33.0	445.
		-37.5	426.	-37.5	366.
		-42.5	334.	-42.5	289.
		-47.5	253.	-47.5	217.
		-55.0	148.	-55.0	124.
		-65.0	52.	-65.0	42.
		-75.0	13.	-75.0	10.
		-85.0	2.	-85.0	1.
		-90.0	0.	-90.0	0.



Checked X.CAO  
 Approved D.WANG-MUNSON

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ADDITIONAL INFORMATION

ACCREDITED LABORATORY CODE 201058-0  
TEST DISTANCE : 28.25 FEET

NOTE: THIS 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.

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CANDELA TABULATION  
 AVERAGE OF RIGHT AND LEFT SIDES

	0.0	1.0	3.0	5.0	7.0	9.0	11.0	13.0	15.0	17.0	19.5	22.5	25.5	29.0	33.0	37.5	42.5	47.5	55.0	65.0	75.0	85.0	90.0
90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
85.0	0.	0.	1.	2.	2.	2.	2.	2.	3.	3.	3.	3.	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.	0.
75.0	16.	17.	17.	17.	16.	16.	16.	16.	15.	15.	14.	14.	13.	11.	11.	9.	8.	7.	5.	3.	2.	2.	0.
65.0	66.	66.	65.	66.	64.	63.	62.	60.	59.	57.	54.	51.	46.	42.	37.	31.	25.	20.	13.	7.	3.	2.	0.
55.0	180.	180.	178.	177.	175.	174.	170.	165.	162.	155.	148.	138.	127.	115.	98.	81.	63.	47.	28.	12.	5.	2.	0.
47.5	293.	293.	299.	295.	288.	284.	280.	275.	266.	259.	248.	235.	218.	197.	170.	140.	108.	79.	44.	18.	6.	2.	0.
42.5	385.	382.	380.	374.	369.	365.	359.	457.	440.	407.	347.	301.	283.	256.	225.	188.	144.	105.	60.	23.	7.	2.	0.
37.5	474.	473.	472.	466.	460.	452.	443.	433.	423.	409.	392.	367.	443.	368.	278.	234.	183.	134.	74.	27.	8.	2.	0.
33.0	536.	534.	533.	531.	526.	520.	511.	501.	490.	476.	456.	429.	400.	491.	418.	276.	218.	162.	89.	33.	9.	2.	0.
29.0	577.	575.	575.	573.	570.	562.	555.	546.	536.	524.	504.	478.	446.	407.	360.	345.	246.	185.	103.	37.	10.	2.	0.
25.5	608.	607.	603.	600.	597.	593.	587.	578.	568.	557.	539.	514.	483.	442.	392.	391.	269.	202.	114.	40.	11.	2.	0.
22.5	628.	627.	623.	616.	612.	609.	603.	597.	589.	579.	562.	538.	508.	468.	417.	421.	337.	215.	123.	43.	11.	2.	0.
19.5	633.	633.	633.	630.	626.	623.	618.	612.	603.	594.	580.	559.	529.	487.	435.	408.	360.	227.	130.	45.	12.	2.	0.
17.0	639.	640.	640.	640.	635.	631.	627.	622.	614.	606.	592.	573.	547.	504.	451.	424.	376.	236.	136.	47.	12.	2.	0.
15.0	643.	643.	645.	643.	641.	637.	633.	628.	620.	612.	600.	581.	556.	516.	463.	436.	388.	241.	139.	48.	12.	2.	0.
13.0	645.	645.	645.	646.	645.	641.	636.	629.	622.	616.	606.	587.	561.	524.	473.	403.	468.	245.	143.	49.	12.	2.	0.
11.0	651.	651.	651.	650.	648.	643.	640.	635.	627.	619.	609.	592.	567.	532.	481.	410.	479.	250.	145.	50.	12.	2.	0.
9.0	655.	656.	656.	655.	651.	648.	645.	641.	633.	624.	611.	596.	572.	541.	488.	417.	488.	254.	147.	51.	13.	2.	0.
7.0	659.	658.	659.	658.	656.	653.	649.	643.	636.	629.	617.	600.	577.	545.	494.	422.	494.	256.	148.	51.	13.	2.	0.
5.0	657.	656.	659.	660.	657.	655.	650.	646.	640.	633.	621.	603.	582.	547.	496.	425.	500.	255.	149.	52.	13.	2.	0.
3.0	656.	656.	659.	659.	656.	654.	652.	649.	642.	635.	622.	605.	583.	549.	497.	427.	503.	255.	149.	52.	13.	2.	0.
1.0	658.	659.	660.	658.	657.	655.	652.	648.	642.	635.	623.	606.	584.	547.	496.	427.	505.	254.	148.	52.	13.	2.	0.
0.0	662.	662.	662.	659.	658.	655.	651.	647.	642.	634.	624.	605.	584.	546.	495.	426.	334.	253.	148.	52.	13.	2.	0.
-1.0	666.	665.	663.	660.	660.	656.	651.	646.	641.	634.	623.	604.	581.	545.	494.	425.	505.	252.	148.	51.	13.	2.	0.
-3.0	666.	665.	663.	663.	661.	657.	651.	646.	641.	633.	622.	603.	578.	544.	492.	467.	417.	249.	146.	51.	13.	2.	0.
-5.0	663.	662.	660.	660.	657.	655.	651.	647.	640.	632.	620.	602.	575.	541.	487.	463.	413.	246.	144.	51.	13.	2.	0.
-7.0	659.	658.	657.	655.	654.	653.	648.	644.	637.	629.	617.	599.	571.	534.	479.	457.	407.	241.	142.	50.	13.	2.	0.
-9.0	656.	656.	655.	654.	653.	650.	647.	643.	636.	627.	615.	595.	565.	526.	473.	450.	400.	234.	139.	49.	13.	2.	0.
-11.0	653.	653.	651.	651.	648.	643.	641.	638.	632.	625.	610.	589.	559.	519.	465.	440.	391.	228.	136.	48.	12.	2.	0.
-13.0	646.	647.	648.	646.	643.	640.	635.	631.	623.	614.	601.	578.	549.	508.	453.	482.	380.	222.	132.	47.	12.	2.	0.
-15.0	639.	639.	640.	639.	636.	633.	627.	621.	614.	605.	588.	564.	537.	496.	439.	465.	286.	215.	128.	46.	12.	2.	0.
-17.0	632.	632.	630.	628.	625.	622.	617.	610.	602.	592.	576.	551.	521.	480.	422.	451.	274.	208.	123.	44.	12.	2.	0.
-19.5	617.	618.	618.	615.	611.	606.	601.	595.	584.	571.	554.	530.	499.	456.	397.	430.	259.	197.	117.	42.	11.	2.	0.
-22.5	600.	601.	597.	593.	589.	583.	577.	567.	556.	542.	524.	499.	466.	422.	366.	398.	241.	183.	108.	40.	11.	2.	0.
-25.5	565.	566.	566.	562.	557.	551.	543.	534.	522.	508.	488.	460.	428.	386.	416.	319.	221.	169.	99.	37.	10.	2.	0.
-29.0	517.	519.	515.	510.	508.	500.	493.	483.	471.	458.	436.	407.	381.	423.	330.	250.	200.	151.	89.	34.	10.	2.	0.
-33.0	445.	446.	443.	439.	435.	430.	423.	411.	401.	388.	372.	501.	474.	347.	257.	217.	173.	131.	76.	30.	9.	2.	0.
-37.5	366.	367.	364.	363.	362.	354.	347.	339.	392.	466.	448.	340.	268.	243.	214.	182.	144.	108.	63.	25.	8.	2.	0.
-42.5	289.	290.	293.	303.	315.	317.	279.	269.	261.	254.	241.	228.	212.	192.	168.	142.	111.	84.	50.	20.	7.	2.	0.
-47.5	217.	218.	218.	216.	214.	212.	207.	202.	197.	190.	182.	172.	159.	144.	126.	105.	83.	63.	37.	17.	6.	2.	0.
-55.0	124.	124.	125.	123.	122.	119.	117.	114.	110.	108.	103.	97.	90.	82.	71.	60.	48.	37.	24.	11.	5.	2.	0.
-65.0	42.	43.	42.	42.	42.	42.	41.	40.	39.	38.	37.	35.	33.	31.	28.	24.	20.	16.	11.	6.	3.	2.	0.
-75.0	10.	10.	10.	11.	11.	11.	11.	11.	11.	11.	10.	10.	10.	9.	9.	8.	7.	6.	5.	3.	2.	2.	0.
-85.0	1.	1.	2.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	2.	2.	2.	2.	2.	2.	2.	2.	0.
-90.0	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

BEAM EDGE = 333. CP = 50% OF MAX  
 FIELD EDGE = 67. CP = 10% OF MAX

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CANDELA TABULATION - FIELD ONLY  
 AVERAGE OF RIGHT AND LEFT SIDES

	0.0	1.0	3.0	5.0	7.0	9.0	11.0	13.0	15.0	17.0	19.5	22.5	25.5	29.0	33.0	37.5	42.5	47.5	55.0	65.0	75.0	85.0	90.0	
90.0																								
85.0																								
75.0																								
65.0																								
55.0	180.	180.	178.	177.	175.	174.	170.	165.	162.	155.	148.	138.	127.	115.	98.	81.								
47.5	293.	293.	299.	295.	288.	284.	280.	275.	266.	259.	248.	235.	218.	197.	170.	140.	108.	79.						
42.5	385.	382.	380.	374.	369.	365.	359.	457.	440.	407.	347.	301.	283.	256.	225.	188.	144.	105.						
37.5	474.	473.	472.	466.	460.	452.	443.	433.	423.	409.	392.	367.	443.	368.	278.	234.	183.	134.	74.					
33.0	536.	534.	533.	531.	526.	520.	511.	501.	490.	476.	456.	429.	400.	491.	418.	276.	218.	162.	89.					
29.0	577.	575.	575.	573.	570.	562.	555.	546.	536.	524.	504.	478.	446.	407.	360.	345.	246.	185.	103.					
25.5	608.	607.	603.	600.	597.	593.	587.	578.	568.	557.	539.	514.	483.	442.	392.	391.	269.	202.	114.					
22.5	628.	627.	623.	616.	612.	609.	603.	597.	589.	579.	562.	538.	508.	468.	417.	421.	337.	215.	123.					
19.5	633.	633.	633.	630.	626.	623.	618.	612.	603.	594.	580.	559.	529.	487.	435.	408.	360.	227.	130.					
17.0	639.	640.	640.	640.	635.	631.	627.	622.	614.	606.	592.	573.	547.	504.	451.	424.	376.	236.	136.					
15.0	643.	643.	645.	643.	641.	637.	633.	628.	620.	612.	600.	581.	556.	516.	463.	436.	388.	241.	139.					
13.0	645.	645.	645.	646.	645.	641.	636.	629.	622.	616.	606.	587.	561.	524.	473.	403.	468.	245.	143.					
11.0	651.	651.	651.	650.	648.	643.	640.	635.	627.	619.	609.	592.	567.	532.	481.	410.	479.	250.	145.					
9.0	655.	656.	656.	655.	651.	648.	645.	641.	633.	624.	611.	596.	572.	541.	488.	417.	488.	254.	147.					
7.0	659.	658.	659.	658.	656.	653.	649.	643.	636.	629.	617.	600.	577.	545.	494.	422.	494.	256.	148.					
5.0	657.	656.	659.	660.	657.	655.	650.	646.	640.	633.	621.	603.	582.	547.	496.	425.	500.	255.	149.					
3.0	656.	656.	659.	659.	656.	654.	652.	649.	642.	635.	622.	605.	583.	549.	497.	427.	503.	255.	149.					
1.0	658.	659.	660.	658.	657.	655.	652.	648.	642.	635.	623.	606.	584.	547.	496.	427.	505.	254.	148.					
0.0	662.	662.	662.	659.	658.	655.	651.	647.	642.	634.	624.	605.	584.	546.	495.	426.	334.	253.	148.					
-1.0	666.	665.	663.	660.	660.	656.	651.	646.	641.	634.	623.	604.	581.	545.	494.	425.	505.	252.	148.					
-3.0	666.	665.	663.	663.	661.	657.	651.	646.	641.	633.	622.	603.	578.	544.	492.	467.	417.	249.	146.					
-5.0	663.	662.	660.	660.	657.	655.	651.	647.	640.	632.	620.	602.	575.	541.	487.	463.	413.	246.	144.					
-7.0	659.	658.	657.	655.	654.	653.	648.	644.	637.	629.	617.	599.	571.	534.	479.	457.	407.	241.	142.					
-9.0	656.	656.	655.	654.	653.	650.	647.	643.	636.	627.	615.	595.	565.	526.	473.	450.	400.	234.	139.					
-11.0	653.	653.	651.	651.	648.	643.	641.	638.	632.	625.	610.	589.	559.	519.	465.	440.	391.	228.	136.					
-13.0	646.	647.	648.	646.	643.	640.	635.	631.	623.	614.	601.	578.	549.	508.	453.	482.	380.	222.	132.					
-15.0	639.	639.	640.	639.	636.	633.	627.	621.	614.	605.	588.	564.	537.	496.	439.	465.	286.	215.	128.					
-17.0	632.	632.	630.	628.	625.	622.	617.	610.	602.	592.	576.	551.	521.	480.	422.	451.	274.	208.	123.					
-19.5	617.	618.	618.	615.	611.	606.	601.	595.	584.	571.	554.	530.	499.	456.	397.	430.	259.	197.	117.					
-22.5	600.	601.	597.	593.	589.	583.	577.	567.	556.	542.	524.	499.	466.	422.	366.	398.	241.	183.	108.					
-25.5	565.	566.	566.	562.	557.	551.	543.	534.	522.	508.	488.	460.	428.	386.	416.	319.	221.	169.	99.					
-29.0	517.	519.	515.	510.	508.	500.	493.	483.	471.	458.	436.	407.	381.	423.	330.	250.	200.	151.	89.					
-33.0	445.	446.	443.	439.	435.	430.	423.	411.	401.	388.	372.	501.	474.	347.	257.	217.	173.	131.	76.					
-37.5	366.	367.	364.	363.	362.	354.	347.	339.	392.	466.	448.	340.	268.	243.	214.	182.	144.	108.						
-42.5	289.	290.	293.	303.	315.	317.	279.	269.	261.	254.	241.	228.	212.	192.	168.	142.	111.	84.						
-47.5	217.	218.	218.	216.	214.	212.	207.	202.	197.	190.	182.	172.	159.	144.	126.	105.	83.							
-55.0	124.	124.	125.	123.	122.	119.	117.	114.	110.	108.	103.	97.	90.	82.	71.									
-65.0																								
-75.0																								
-85.0																								
-90.0																								

BEAM EDGE = 333. CP = 50% OF MAX  
 FIELD EDGE = 67. CP = 10% OF MAX

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LUMEN TABULATION  
 AVERAGE OF RIGHT AND LEFT SIDES

	0	2	4	6	8	10	12	14	16	18	21	24	27	31	35	40	45	50	60	70	80	90	TOTAL
90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	7.
60	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	18.
50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	15.
45	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	20.
40	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	1.	1.	1.	0.	0.	0.	25.
35	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	1.	1.	1.	1.	0.	0.	0.	23.
31	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	2.	1.	2.	1.	1.	1.	0.	0.	0.	25.
27	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	20.
24	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	1.	0.	0.	0.	21.
21	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	1.	1.	1.	0.	0.	0.	21.
18	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	15.
16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	15.
14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	15.
12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	15.
10	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	15.
8	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	15.
6	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	16.
4	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	16.
2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	16.
0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	16.
-2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	15.
-4	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	15.
-6	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	15.
-8	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	15.
-10	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	15.
-12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	15.
-14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	14.
-16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	14.
-18	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	20.
-21	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	19.
-24	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	18.
-27	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	22.
-31	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	19.
-35	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	20.
-40	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	15.
-45	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	11.
-50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	0.	0.	13.
-60	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	5.
-70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.
-80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
-90	35.	35.	35.	34.	34.	33.	33.	32.	31.	45.	42.	39.	46.	39.	42.	33.	20.	19.	5.	1.	0.	0.	632.

LUMEN TOTAL THIS PAGE = 632.

REPORT NUMBER: RAB01899  
 ISSUE DATE: 04/26/16  
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 6 OF 7  
 DATE SAMPLE TESTED: 04/26/16

LUMEN TABULATION - FIELD ONLY  
 AVERAGE OF RIGHT AND LEFT SIDES

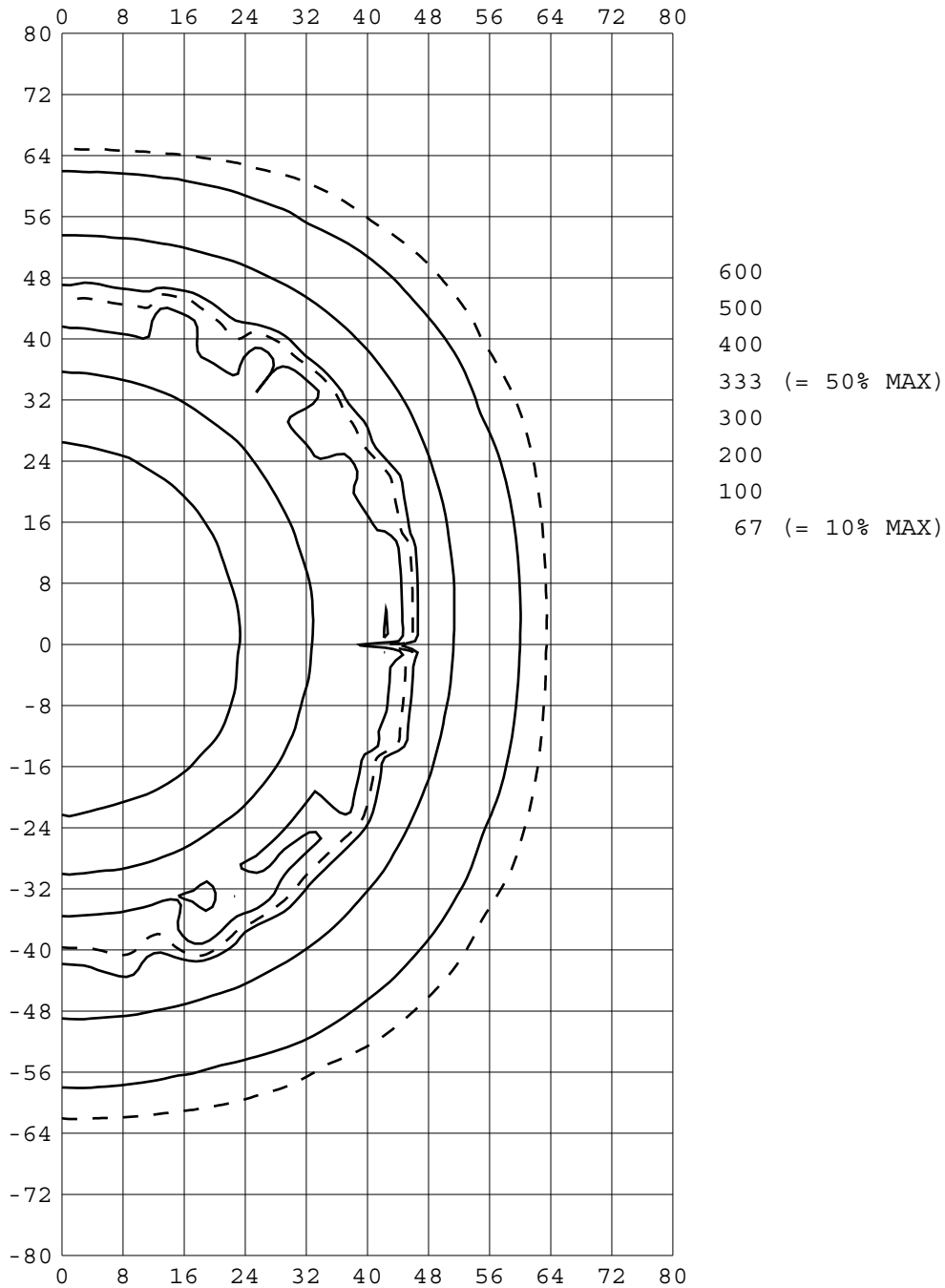
	0	2	4	6	8	10	12	14	16	18	21	24	27	31	35	40	45	50	60	70	80	90	TOTAL
90																							0.
80																							0.
70																							0.
60																							0.
50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.					16.
45	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.					14.
40	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	1.	1.	1.				24.
35	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	1.	1.	1.	1.				23.
31	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	2.	1.	2.	1.	1.	1.				24.
27	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.				20.
24	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	1.				21.
21	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	1.	1.	1.				21.
18	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.				14.
16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.				15.
14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.				15.
12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.			15.
10	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
8	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
6	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
4	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
-2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
-4	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
-6	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			15.
-8	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.			15.
-10	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.			15.
-12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.			15.
-14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.			15.
-16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.			14.
-18	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.			14.
-21	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	1.				20.
-24	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			19.
-27	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.			18.
-31	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	1.	1.	1.	1.	1.	1.			21.
-35	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	1.	1.	1.	1.	1.	1.			19.
-40	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	1.	1.	1.	1.	1.	1.				19.
-45	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.				14.
-50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.					10.
-60	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.								10.
-70																							0.
-80																							0.
-90																							0.
	34.	34.	34.	33.	33.	32.	32.	31.	31.	44.	41.	38.	45.	38.	40.	31.	18.	16.	0.	0.	0.		605.

LUMEN TOTAL THIS PAGE = 605.

REPORT NUMBER: RAB01899  
ISSUE DATE: 04/26/16  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 7 OF 7  
DATE SAMPLE TESTED: 04/26/16

ISOCANDELA CURVES  
AVERAGE OF RIGHT AND LEFT SIDES



REPORT NUMBER: RAB01902  
DATE: 4/26/2016  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: BULLET12N

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NI 07647

LUMINAIRE: CAST FINNED METAL HEAT SINK, MOLDED TEXTURED PLASTIC REFLECTOR WITH SEMI-DIFFUSE FINISH, 1 CIRCUIT BOARD WITH 24 LEDS, CLEAR MICRO-PRISMATIC GLASS LENS IN CAST BROWN PAINTED METAL FRAME, LENS PRISMS OUT.

LAMP: TWENTY-FOUR WHITE LIGHT EMITTING DIODES (LEDS), AIMED AT THE HORIZON.

DRIVER: INTEGRAL

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120.0 , 60Hz) TO THE TEST SAMPLE.

INSTRUMENTS:	GWINSTEK PROGRAMMABLE AC POWER SOURCE APS-7100	Calibration Due:
	CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202	N/A
	OCEAN OPTICS QE65PRO Spectroradiometer	2/26/17
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	4/4/17

OBJECT OF TEST: Measure the Total Radiant Flux\*, Spectral Power Distribution (SPD), Correlated Color Temperature (CCT), Color Rendering Indices (CRIa,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.

PROCEDURE: The test sample was provided by the customer and had an unknown number of burn 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 input 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)

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



REPORT NUMBER: RAB01902  
 DATE: 4/26/2016  
 PREPARED FOR: RAB LIGHTING INC.  
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RESULTS:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3796
Chromaticity Ordinate y	0.3756
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2250
Chromaticity Ordinate v'	0.5010
Correlated Color Temp CCT (K)	4014
Color Rendering Index (CRI <sub>a</sub> )	84
Color Rendering Index 1 (Light greyish red)	82
Color Rendering Index 2 (Dark greyish yellow)	90
Color Rendering Index 3 (Strong yellowish green)	95
Color Rendering Index 4 (Moderate yellowish green)	83
Color Rendering Index 5 (Light bluish green)	83
Color Rendering Index 6 (Light blue)	86
Color Rendering Index 7 (Light violet)	87
Color Rendering Index 8 (Light reddish purple)	67
Color Rendering Index 9 (Strong red)	15
Color Rendering Index 10 (Strong yellow)	75
Color Rendering Index 11 (Strong green)	82
Color Rendering Index 12 (Strong blue)	65
Color Rendering Index 13 (Light yellowish pink (skin))	84
Color Rendering Index 14 (Moderate olive green (leaf))	97
ANSI C78.377-2008 Duv	0.000
Total Radiant Flux (milliWatts)	3904 *
ELECTRICAL FOR SPECTRORADIOMETRIC TEST	
Input Voltage (Volts AC )	120.0
Input Current (Amps AC )	0.110
Input Power (Watts)	13.2
Input Power Factor (%)	99.3
Input Current THD (%)	11.7
Input Voltage THD (%)	0.2
Off-State Power (Watts)	0.0

\*NOTE:

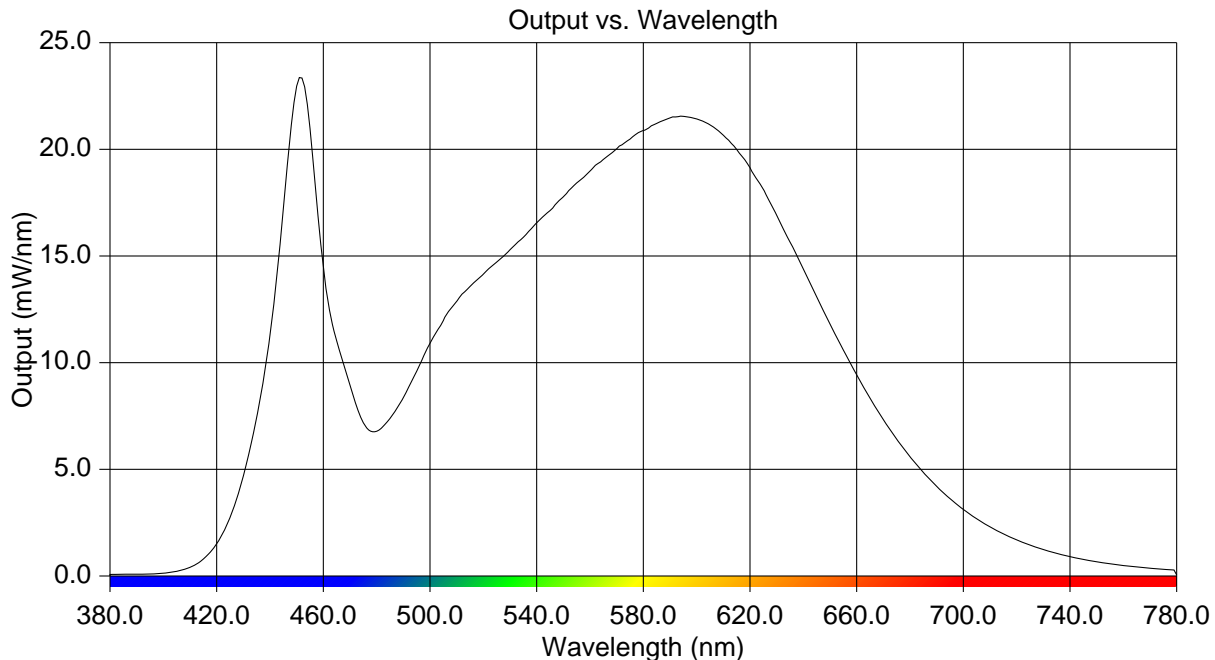
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even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

REPORT NUMBER: RAB01902  
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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.070	515	13.571	650	11.812
385	0.075	520	14.143	655	10.593
390	0.084	525	14.719	660	9.426
395	0.096	530	15.293	665	8.342
400	0.131	535	15.876	670	7.329
405	0.221	540	16.563	675	6.421
410	0.405	545	17.126	680	5.597
415	0.795	550	17.767	685	4.857
420	1.502	555	18.423	690	4.201
425	2.750	560	18.972	695	3.628
430	4.687	565	19.531	700	3.118
435	7.468	570	20.032	705	2.687
440	11.232	575	20.478	710	2.299
445	17.237	580	20.880	715	1.978
450	22.964	585	21.214	720	1.688
455	20.988	590	21.479	725	1.442
460	14.481	595	21.552	730	1.239
465	11.027	600	21.431	735	1.060
470	8.943	605	21.144	740	0.908
475	7.182	610	20.651	745	0.777
480	6.790	615	19.995	750	0.668
485	7.375	620	19.140	755	0.573
490	8.364	625	18.119	760	0.492
495	9.595	630	16.913	765	0.423
500	10.919	635	15.655	770	0.364
505	11.972	640	14.387	775	0.313
510	12.885	645	13.094	780	0.048



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DATE: 4/26/2016  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: BULLET12N

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## CIE Chromaticity Diagram

