

REPORT NUMBER: RAB02169

ISSUE DATE: 06/29/16

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: PIP15Y/D10

LUMINAIRE: ONE-PIECE CAST METAL HOUSING WITH PAINTED BRONZE FINISH, LED AND DRIVER COMPARTMENT SEPARATED BY FINNED HEAT SINK, ONE WHITE CIRCUIT BOARD WITH 30 LEDS, TRANSLUCENT PLASTIC LENS ON TOP OF THE LED BOARD.

LAMPS: THRITY WHITE LIGHT EMITTING DIODES (LEDS), AIMED AT THE HORIZON.

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED.

TOTAL INPUT WATTS =15.807 AT 277.0 VAC.

LED DRIVER: RDD-20W-042SE-A0450

TEST PROCEDURE: IESNA LM-79-08

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

PAGE: 1 OF 7

DATE SAMPLE TESTED: 06/29/16

### FLOODLIGHT CHARACTERISTICS

#### IES TYPE

#### MAXIMUM CANDLEPOWER

HORIZONTAL BEAM ANGLE (50%)

VERTICAL BEAM ANGLE (50%)

HORIZONTAL FIELD ANGLE (10%)

VERTICAL FIELD ANGLE (10%)

BEAM LUMENS (% FIXTURE)

FIELD LUMENS (% FIXTURE)

TOTAL LUMENS (% FIXTURE)

TOTAL INPUT WATTS = 15.8

EFFICACY = 130.6 Lm/W

7H X 6V

1006. AT 25.5 H, 3.0 V

#### AXIAL CANDLEPOWER

DEG	HORIZ.	DEG	VERT.
90.0	0.	90.0	0.
85.0	9.	85.0	0.
75.0	57.	75.0	27.
65.0	158.	65.0	51.
55.0	334.	55.0	101.
47.5	519.	47.5	181.
42.5	703.	42.5	275.
37.5	895.	37.5	394.
33.0	979.	33.0	530.
29.0	996.	29.0	668.
25.5	1000.	25.5	771.
22.5	995.	22.5	833.
19.5	976.	19.5	860.
17.0	950.	17.0	854.
15.0	929.	15.0	847.
13.0	909.	13.0	850.
11.0	894.	11.0	856.
9.0	885.	9.0	870.
7.0	883.	7.0	881.
5.0	886.	5.0	896.
3.0	891.	3.0	904.
1.0	893.	1.0	899.
0.0	894.	0.0	894.
-1.0	893.	-1.0	886.
-3.0	891.	-3.0	863.
-5.0	886.	-5.0	844.
-7.0	883.	-7.0	828.
-9.0	885.	-9.0	820.
-11.0	894.	-11.0	818.
-13.0	909.	-13.0	823.
-15.0	929.	-15.0	835.
-17.0	950.	-17.0	839.
-19.5	976.	-19.5	833.
-22.5	995.	-22.5	792.
-25.5	1000.	-25.5	729.
-29.0	996.	-29.0	639.
-33.0	979.	-33.0	518.
-37.5	895.	-37.5	397.
-42.5	703.	-42.5	283.
-47.5	519.	-47.5	185.
-55.0	334.	-55.0	98.
-65.0	158.	-65.0	54.
-75.0	57.	-75.0	32.
-85.0	9.	-85.0	8.
-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.	1.	2.	2.	2.	3.	3.	3.	4.	3.	4.	4.	4.	4.	4.	4.	3.	3.	4.	4.	3.	3.	0.
75.0	27.	27.	27.	27.	27.	26.	26.	26.	26.	26.	26.	26.	27.	27.	28.	29.	29.	27.	22.	14.	6.	4.	0.
65.0	51.	51.	51.	51.	51.	51.	51.	52.	53.	55.	57.	60.	65.	71.	77.	83.	81.	73.	58.	34.	14.	5.	0.
55.0	101.	101.	101.	100.	100.	100.	103.	107.	112.	122.	133.	148.	161.	179.	197.	204.	188.	155.	109.	58.	24.	6.	0.
47.5	181.	182.	182.	183.	184.	189.	195.	205.	220.	235.	256.	277.	298.	322.	341.	341.	296.	233.	155.	80.	30.	7.	0.
42.5	275.	277.	274.	276.	278.	283.	290.	306.	321.	344.	380.	411.	449.	450.	450.	445.	410.	288.	189.	93.	36.	7.	0.
37.5	394.	396.	392.	395.	400.	409.	425.	444.	463.	495.	486.	517.	541.	568.	581.	552.	469.	357.	221.	105.	41.	8.	0.
33.0	530.	532.	529.	531.	528.	533.	547.	562.	590.	615.	645.	671.	691.	708.	713.	660.	530.	420.	248.	118.	45.	8.	0.
29.0	668.	668.	666.	667.	665.	671.	684.	705.	733.	760.	785.	807.	815.	820.	808.	737.	588.	463.	272.	127.	47.	8.	0.
25.5	771.	767.	767.	766.	766.	770.	783.	803.	826.	852.	875.	893.	897.	891.	867.	788.	628.	493.	288.	134.	50.	8.	0.
22.5	833.	831.	831.	828.	827.	829.	840.	858.	880.	903.	925.	938.	938.	928.	900.	813.	648.	474.	299.	139.	51.	9.	0.
19.5	860.	860.	860.	857.	855.	857.	868.	885.	905.	926.	945.	955.	952.	939.	909.	825.	659.	485.	308.	144.	53.	9.	0.
17.0	854.	855.	854.	852.	849.	852.	862.	878.	898.	918.	938.	949.	947.	937.	911.	832.	665.	491.	314.	147.	54.	9.	0.
15.0	847.	847.	847.	844.	843.	845.	855.	871.	891.	912.	933.	946.	947.	939.	917.	842.	672.	497.	318.	149.	55.	9.	0.
13.0	850.	850.	849.	846.	844.	847.	855.	872.	891.	912.	933.	949.	952.	945.	925.	852.	679.	501.	322.	151.	55.	9.	0.
11.0	856.	857.	856.	852.	850.	853.	862.	877.	896.	917.	940.	956.	960.	955.	937.	864.	686.	507.	325.	153.	56.	9.	0.
9.0	870.	870.	869.	866.	862.	865.	872.	888.	906.	927.	950.	967.	972.	967.	950.	876.	694.	512.	329.	155.	56.	9.	0.
7.0	881.	882.	881.	876.	872.	874.	882.	896.	915.	936.	959.	977.	982.	979.	963.	887.	701.	517.	331.	156.	57.	9.	0.
5.0	896.	897.	895.	890.	886.	888.	895.	910.	928.	949.	972.	990.	996.	991.	976.	896.	706.	520.	333.	157.	57.	9.	0.
3.0	904.	905.	903.	898.	894.	896.	903.	918.	937.	958.	982.	1000.	1006.	1001.	983.	900.	708.	521.	334.	157.	57.	9.	0.
1.0	899.	899.	897.	892.	888.	891.	899.	914.	933.	955.	979.	998.	1004.	999.	982.	899.	705.	520.	334.	157.	57.	9.	0.
0.0	894.	893.	891.	886.	883.	885.	894.	909.	929.	950.	976.	995.	1000.	996.	979.	895.	703.	519.	334.	158.	57.	9.	0.
-1.0	886.	885.	883.	879.	875.	878.	887.	903.	923.	945.	971.	989.	995.	992.	975.	891.	700.	518.	334.	157.	57.	9.	0.
-3.0	863.	865.	863.	859.	857.	860.	870.	887.	908.	931.	957.	977.	983.	979.	963.	880.	694.	514.	332.	157.	57.	9.	0.
-5.0	844.	844.	842.	839.	838.	842.	852.	870.	892.	915.	941.	962.	968.	966.	950.	867.	686.	509.	331.	156.	57.	9.	0.
-7.0	828.	829.	827.	824.	823.	828.	839.	856.	878.	902.	928.	949.	955.	951.	935.	853.	677.	505.	328.	156.	57.	9.	0.
-9.0	820.	820.	818.	815.	815.	820.	830.	847.	870.	894.	919.	938.	944.	939.	921.	840.	669.	501.	326.	155.	57.	10.	0.
-11.0	818.	818.	815.	813.	813.	816.	827.	844.	866.	890.	915.	932.	936.	929.	909.	827.	661.	495.	323.	153.	56.	9.	0.
-13.0	823.	824.	821.	818.	818.	822.	832.	848.	869.	893.	916.	932.	933.	924.	900.	817.	655.	491.	319.	151.	56.	9.	0.
-15.0	835.	835.	832.	829.	829.	832.	841.	857.	877.	899.	921.	933.	930.	918.	891.	806.	647.	486.	315.	149.	55.	9.	0.
-17.0	839.	839.	837.	833.	834.	837.	847.	862.	883.	906.	927.	937.	932.	916.	883.	797.	641.	481.	311.	147.	54.	9.	0.
-19.5	833.	831.	828.	827.	828.	831.	841.	858.	881.	903.	925.	934.	928.	911.	875.	786.	632.	474.	304.	144.	53.	9.	0.
-22.5	792.	793.	791.	790.	792.	796.	806.	824.	847.	872.	896.	911.	909.	895.	859.	769.	619.	464.	295.	139.	52.	9.	0.
-25.5	729.	731.	728.	728.	731.	735.	747.	764.	789.	816.	843.	862.	864.	856.	824.	739.	596.	493.	285.	134.	50.	9.	0.
-29.0	639.	638.	636.	637.	640.	645.	655.	672.	698.	727.	755.	781.	788.	791.	767.	690.	559.	462.	269.	127.	48.	9.	0.
-33.0	518.	515.	514.	515.	517.	521.	529.	545.	569.	596.	630.	660.	676.	691.	681.	620.	528.	420.	247.	117.	45.	8.	0.
-37.5	397.	395.	397.	400.	406.	415.	427.	445.	478.	484.	493.	520.	542.	561.	563.	525.	451.	352.	221.	105.	41.	8.	0.
-42.5	283.	281.	284.	284.	288.	293.	300.	312.	332.	353.	391.	440.	452.	448.	449.	423.	401.	292.	192.	93.	37.	8.	0.
-47.5	185.	186.	186.	189.	191.	196.	204.	216.	232.	247.	266.	286.	302.	316.	326.	321.	288.	237.	158.	81.	31.	7.	0.
-55.0	98.	98.	98.	99.	101.	102.	106.	112.	118.	129.	140.	151.	161.	174.	186.	190.	182.	159.	114.	60.	25.	7.	0.
-65.0	54.	54.	54.	55.	55.	55.	56.	57.	58.	60.	62.	64.	67.	70.	75.	80.	81.	78.	63.	37.	16.	5.	0.
-75.0	32.	32.	32.	32.	32.	32.	32.	31.	32.	32.	32.	32.	32.	31.	32.	33.	34.	34.	29.	18.	9.	4.	0.
-85.0	8.	9.	10.	10.	11.	11.	11.	11.	11.	11.	10.	10.	10.	10.	10.	10.	10.	10.	8.	7.	4.	3.	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 = 503. CP = 50% OF MAX  
 FIELD EDGE = 101. 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	101.	101.	101.				103.	107.	112.	122.	133.	148.	161.	179.	197.	204.	188.	155.	109.				
47.5	181.	182.	182.	183.	184.	189.	195.	205.	220.	235.	256.	277.	298.	322.	341.	341.	296.	233.	155.				
42.5	275.	277.	274.	276.	278.	283.	290.	306.	321.	344.	380.	411.	449.	450.	450.	445.	410.	288.	189.				
37.5	394.	396.	392.	395.	400.	409.	425.	444.	463.	495.	486.	517.	541.	568.	581.	552.	469.	357.	221.	105.			
33.0	530.	532.	529.	531.	528.	533.	547.	562.	590.	615.	645.	671.	691.	708.	713.	660.	530.	420.	248.	118.			
29.0	668.	668.	666.	667.	665.	671.	684.	705.	733.	760.	785.	807.	815.	820.	808.	737.	588.	463.	272.	127.			
25.5	771.	767.	767.	766.	766.	770.	783.	803.	826.	852.	875.	893.	897.	891.	867.	788.	628.	493.	288.	134.			
22.5	833.	831.	831.	828.	827.	829.	840.	858.	880.	903.	925.	938.	938.	928.	900.	813.	648.	474.	299.	139.			
19.5	860.	860.	860.	857.	855.	857.	868.	885.	905.	926.	945.	955.	952.	939.	909.	825.	659.	485.	308.	144.			
17.0	854.	855.	854.	852.	849.	852.	862.	878.	898.	918.	938.	949.	947.	937.	911.	832.	665.	491.	314.	147.			
15.0	847.	847.	847.	844.	843.	845.	855.	871.	891.	912.	933.	946.	947.	939.	917.	842.	672.	497.	318.	149.			
13.0	850.	850.	849.	846.	844.	847.	855.	872.	891.	912.	933.	949.	952.	945.	925.	852.	679.	501.	322.	151.			
11.0	856.	857.	856.	852.	850.	853.	862.	877.	896.	917.	940.	956.	960.	955.	937.	864.	686.	507.	325.	153.			
9.0	870.	870.	869.	866.	862.	865.	872.	888.	906.	927.	950.	967.	972.	967.	950.	876.	694.	512.	329.	155.			
7.0	881.	882.	881.	876.	872.	874.	882.	896.	915.	936.	959.	977.	982.	979.	963.	887.	701.	517.	331.	156.			
5.0	896.	897.	895.	890.	886.	888.	895.	910.	928.	949.	972.	990.	996.	991.	976.	896.	706.	520.	333.	157.			
3.0	904.	905.	903.	898.	894.	896.	903.	918.	937.	958.	982.	1000.	1006.	1001.	983.	900.	708.	521.	334.	157.			
1.0	899.	899.	897.	892.	888.	891.	899.	914.	933.	955.	979.	998.	1004.	999.	982.	899.	705.	520.	334.	157.			
0.0	894.	893.	891.	886.	883.	885.	894.	909.	929.	950.	976.	995.	1000.	996.	979.	895.	703.	519.	334.	158.			
-1.0	886.	885.	883.	879.	875.	878.	887.	903.	923.	945.	971.	989.	995.	992.	975.	891.	700.	518.	334.	157.			
-3.0	863.	865.	863.	859.	857.	860.	870.	887.	908.	931.	957.	977.	983.	979.	963.	880.	694.	514.	332.	157.			
-5.0	844.	844.	842.	839.	838.	842.	852.	870.	892.	915.	941.	962.	968.	966.	950.	867.	686.	509.	331.	156.			
-7.0	828.	829.	827.	824.	823.	828.	839.	856.	878.	902.	928.	949.	955.	951.	935.	853.	677.	505.	328.	156.			
-9.0	820.	820.	818.	815.	815.	820.	830.	847.	870.	894.	919.	938.	944.	939.	921.	840.	669.	501.	326.	155.			
-11.0	818.	818.	815.	813.	813.	816.	827.	844.	866.	890.	915.	932.	936.	929.	909.	827.	661.	495.	323.	153.			
-13.0	823.	824.	821.	818.	818.	822.	832.	848.	869.	893.	916.	932.	933.	924.	900.	817.	655.	491.	319.	151.			
-15.0	835.	835.	832.	829.	829.	832.	841.	857.	877.	899.	921.	933.	930.	918.	891.	806.	647.	486.	315.	149.			
-17.0	839.	839.	837.	833.	834.	837.	847.	862.	883.	906.	927.	937.	932.	916.	883.	797.	641.	481.	311.	147.			
-19.5	833.	831.	828.	827.	828.	831.	841.	858.	881.	903.	925.	934.	928.	911.	875.	786.	632.	474.	304.	144.			
-22.5	792.	793.	791.	790.	792.	796.	806.	824.	847.	872.	896.	911.	909.	895.	859.	769.	619.	464.	295.	139.			
-25.5	729.	731.	728.	728.	731.	735.	747.	764.	789.	816.	843.	862.	864.	856.	824.	739.	596.	493.	285.	134.			
-29.0	639.	638.	636.	637.	640.	645.	655.	672.	698.	727.	755.	781.	788.	791.	767.	690.	559.	462.	269.	127.			
-33.0	518.	515.	514.	515.	517.	521.	529.	545.	569.	596.	630.	660.	676.	691.	681.	620.	528.	420.	247.	117.			
-37.5	397.	395.	397.	400.	406.	415.	427.	445.	478.	484.	493.	520.	542.	561.	563.	525.	451.	352.	221.	105.			
-42.5	283.	281.	284.	284.	288.	293.	300.	312.	332.	353.	391.	440.	452.	448.	449.	423.	401.	292.	192.				
-47.5	185.	186.	186.	189.	191.	196.	204.	216.	232.	247.	266.	286.	302.	316.	326.	321.	288.	237.	158.				
-55.0					101.	102.	106.	112.	118.	129.	140.	151.	161.	174.	186.	190.	182.	159.	114.				
-65.0																							
-75.0																							
-85.0																							
-90.0																							

BEAM EDGE = 503. CP = 50% OF MAX  
 FIELD EDGE = 101. 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.	1.
80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	4.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	10.
60	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	1.	0.	0.	0.	22.
50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	1.	0.	0.	19.
45	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	1.	2.	1.	0.	0.	0.	27.
40	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	3.	2.	2.	1.	0.	0.	35.
35	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	2.	2.	2.	1.	0.	0.	34.
31	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	3.	3.	3.	4.	3.	2.	2.	1.	0.	0.	41.
27	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	2.	2.	2.	1.	0.	0.	34.
24	2.	2.	2.	2.	1.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	2.	1.	2.	1.	0.	0.	35.
21	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	2.	1.	2.	1.	0.	0.	36.
18	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	1.	0.	0.	0.	24.
16	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
14	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
12	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
10	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
8	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	25.
6	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	25.
4	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	25.
2	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	26.
0	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	25.
-2	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	25.
-4	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	25.
-6	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
-8	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
-10	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
-12	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	1.	0.	0.	0.	24.
-14	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	1.	0.	0.	0.	24.
-16	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	1.	0.	0.	0.	24.
-18	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	1.	0.	0.	0.	24.
-21	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	2.	1.	2.	1.	0.	0.	35.
-24	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	2.	1.	2.	1.	0.	0.	34.
-27	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	2.	2.	1.	1.	0.	0.	32.
-31	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	3.	3.	3.	3.	3.	2.	2.	1.	0.	0.	39.
-35	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	2.	2.	2.	1.	0.	0.	33.
-40	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	3.	2.	2.	1.	0.	0.	34.
-45	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.	0.	0.	27.
-50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	1.	0.	0.	19.
-60	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	1.	0.	0.	22.
-70	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	11.
-80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	5.
-90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
	41.	41.	41.	40.	41.	41.	42.	43.	44.	67.	67.	67.	87.	83.	91.	70.	49.	54.	19.	5.	0.	0.	1031.

LUMEN TOTAL THIS PAGE = 1031.

REPORT NUMBER: RAB02169  
 ISSUE DATE: 06/29/16  
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 6 OF 7  
 DATE SAMPLE TESTED: 06/29/16

### LUMEN TABULATION - FIELD ONLY AVERAGE OF RIGHT AND LEFT SIDES

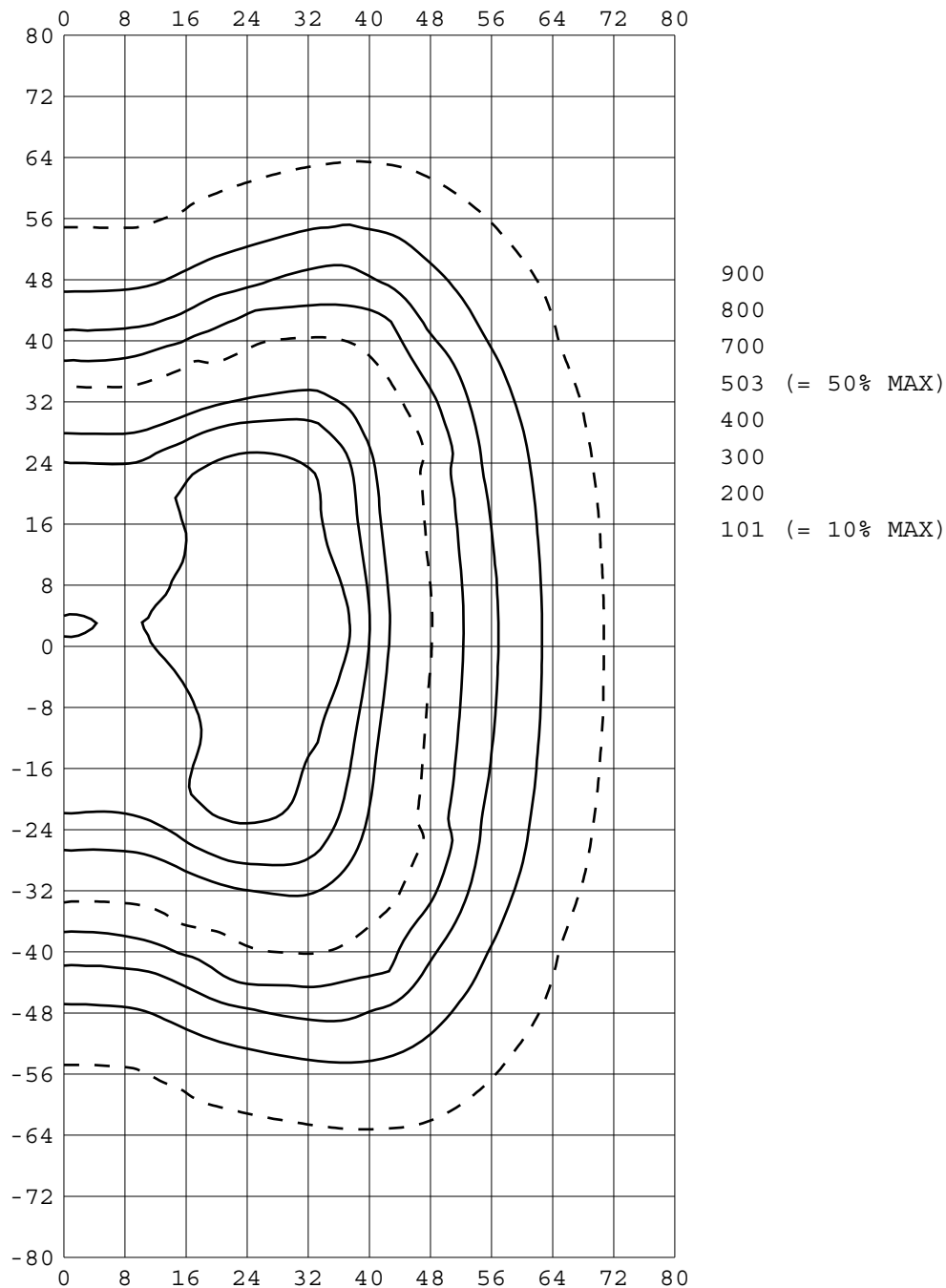
	0	2	4	6	8	10	12	14	16	18	21	24	27	31	35	40	45	50	60	70	80	90	TOTAL
90																							0.
80																							0.
70																							0.
60																							
50	1.	1.					1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.				20.
45	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.				19.
40	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	1.	2.				26.
35	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	3.	3.	3.	3.	2.	2.	1.			34.
31	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	3.	3.	3.	2.	2.	2.	1.			34.
27	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	3.	3.	4.	3.	2.	2.	1.			40.
24	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	3.	3.	3.	2.	2.	2.	1.			34.
21	2.	2.	2.	2.	1.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	2.	1.	2.	1.			35.
18	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	2.	1.	2.	1.			36.
16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	1.	1.	1.	0.			24.
14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			24.
12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			24.
10	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			24.
8	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			25.
6	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			25.
4	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			25.
2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			25.
0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			25.
-2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			25.
-4	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			25.
-6	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			24.
-8	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			24.
-10	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			24.
-12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			24.
-14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			23.
-16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			23.
-18	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.			23.
-21	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	2.	1.	2.	1.			35.
-24	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	2.	1.	2.	1.			34.
-27	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	3.	3.	3.	2.	2.	1.	1.			32.
-31	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	3.	3.	3.	3.	2.	2.	1.			39.
-35	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	3.	3.	3.	2.	2.	2.	1.			33.
-40	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	3.	3.	3.	3.	2.	2.	1.			34.
-45	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.				26.
-50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.				19.
-60				1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.				19.
-70																							0.
-80																							0.
-90																							0.
	39.	39.	38.	39.	39.	39.	40.	41.	42.	43.	65.	66.	65.	85.	80.	88.	67.	47.	51.	14.	0.	0.	987.

LUMEN TOTAL THIS PAGE = 987.

REPORT NUMBER: RAB02169  
ISSUE DATE: 06/29/16  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 7 OF 7  
DATE SAMPLE TESTED: 06/29/16

ISOCANDELA CURVES  
AVERAGE OF RIGHT AND LEFT SIDES



REPORT NUMBER: RAB02170  
DATE: 6/28/2016  
PREPARED FOR: RAB LIGHTING INC.  
CATALOG NUMBER: PIP15Y/D10

ADDRESS: 170 LUDLOW AVE, NORTHVALE, NJ 07647

LUMINAIRE: ONE-PIECE CAST METAL HOUSING WITH PAINTED BRONZE FINISH, LED AND DRIVER COMPARTMENT SEPARATED BY FINNED HEAT SINK, ONE WHITE CIRCUIT BOARD WITH 30 LEDS, TRANSLUCENT PLASTIC LENS ON TOP OF THE LED BOARD.

LAMP: THRITY WHITE LIGHT EMITTING DIODES (LEDs), AIMED AT THE HORIZON.

DRIVER: RDD-20W-042SE-A0450

OBJECT OF TEST: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT THE RATED INPUT VOLTAGES (277.0 AND 120.0 VAC, 60Hz) TO THE TEST SAMPLE.

INSTRUMENTS:	GWINSTEK PROGRAMMABLE AC POWER SOURCE APS-7100	N/A
	CHROMA PROGRAMMABLE DIGITAL POWER METER MODEL 66202	2/26/17
	OCEAN OPTICS QE65PRO Spectroradiometer	5/31/17
	RAB 2.0 meter Diameter Integrating Sphere, 4PI Geometry	5/31/17

OBJECT OF TEST: Measure the Absolute Flux in lumens\*, 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. 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 (120.0 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



REPORT NUMBER: RAB02170  
 DATE: 6/28/2016  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: PIP15Y/D10

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### RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	2063 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.4327
Chromaticity Ordinate y	0.4007
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2493
Chromaticity Ordinate v'	0.5194
Correlated Color Temp CCT (K)	3045
ANSI C78.377-2008 Duv	-0.001
Total Radiant Flux (milliWatts)	5959 *
ELECTRICAL	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.061
Input Power (Watts)	15.8
Input Power Factor (%)	92.8
Input Current THD (%)	14.1
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	130.6
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.128
Input Power (Watts)	15.1
Input Power Factor (%)	98.8
Input Current THD (%)	12.8
Input Voltage THD (%)	0.2
Off-State Power (Watts)	
	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	73
R1 Light greyish red	70
R2 Dark greyish yellow	83
R3 Strong yellowish green	92
R4 Moderate yellowish green	68
R5 Light bluish green	68
R6 Light blue	75
R7 Light violet	79
R8 Light reddish purple	47
R9 Strong red	-24
R10 Strong yellow	59
R11 Strong green	62
R12 Strong blue	47
R13 Light yellowish pink (skin)	72
R14 Moderate olive green (leaf)	96

### \*NOTE:

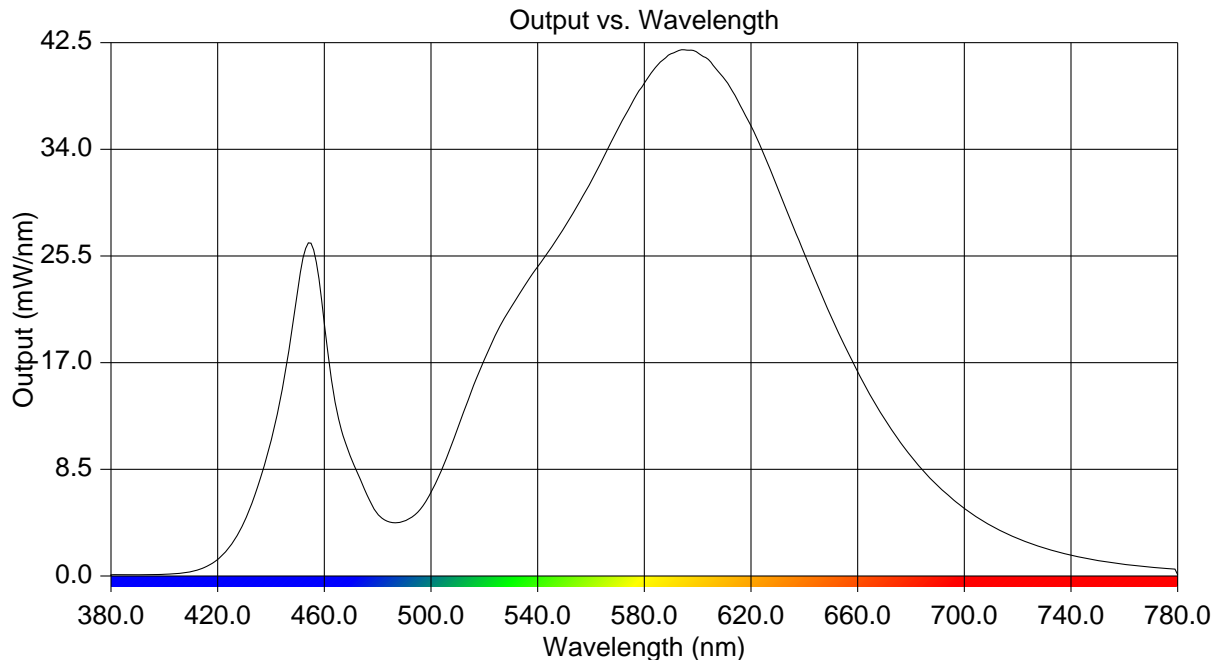
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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: RAB02170  
 DATE: 6/28/2016  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: PIP15Y/D10

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### RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.094	515	14.633	650	20.662
385	0.100	520	17.220	655	18.409
390	0.103	525	19.551	660	16.275
395	0.107	530	21.382	665	14.306
400	0.137	535	23.094	670	12.529
405	0.200	540	24.638	675	10.962
410	0.346	545	26.137	680	9.546
415	0.678	550	27.751	685	8.289
420	1.327	555	29.547	690	7.180
425	2.481	560	31.394	695	6.245
430	4.324	565	33.460	700	5.387
435	7.114	570	35.581	705	4.658
440	10.826	575	37.537	710	4.028
445	15.733	580	39.261	715	3.474
450	22.806	585	40.721	720	2.993
455	26.522	590	41.616	725	2.567
460	20.109	595	41.933	730	2.213
465	12.864	600	41.707	735	1.913
470	9.411	605	40.937	740	1.648
475	6.940	610	39.620	745	1.436
480	4.928	615	37.895	750	1.241
485	4.277	620	35.870	755	1.072
490	4.378	625	33.571	760	0.929
495	5.076	630	30.867	765	0.809
500	6.646	635	28.297	770	0.703
505	8.978	640	25.687	775	0.611
510	11.783	645	23.147	780	0.093



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## CIE Chromaticity Diagram

