

REPORT NUMBER: RAB02143

ISSUE DATE: 06/27/16

PREPARED FOR: RAB LIGHTING INC.

CATALOG NUMBER: PIP15/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 =15.583 AT 277.0 VAC.

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

TEST PROCEDURE: IESNA LM-79-08

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

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### FLOODLIGHT CHARACTERISTICS

#### IES TYPE

#### 7H X 6V

#### MAXIMUM CANDLEPOWER

1145. AT 0.0 H, 0.0 V

HORIZONTAL BEAM ANGLE (50%)

96.3 deg

VERTICAL BEAM ANGLE (50%)

70.2 deg

HORIZONTAL FIELD ANGLE (10%)

142.5 deg

VERTICAL FIELD ANGLE (10%)

126.0 deg

BEAM LUMENS (% FIXTURE)

1333. ( 63.8 % )

FIELD LUMENS (% FIXTURE)

1998. ( 95.6 % )

TOTAL LUMENS (% FIXTURE)

2091. (100.0 % )

TOTAL INPUT WATTS = 15.6

EFFICACY = 134.0 Lm/W

#### AXIAL CANDLEPOWER

DEG	HORIZ.	DEG	VERT.
90.0	0.	90.0	0.
85.0	12.	85.0	0.
75.0	71.	75.0	30.
65.0	187.	65.0	60.
55.0	373.	55.0	126.
47.5	591.	47.5	261.
42.5	759.	42.5	395.
37.5	860.	37.5	513.
33.0	904.	33.0	605.
29.0	933.	29.0	672.
25.5	966.	25.5	732.
22.5	993.	22.5	786.
19.5	1020.	19.5	840.
17.0	1037.	17.0	880.
15.0	1051.	15.0	910.
13.0	1066.	13.0	939.
11.0	1081.	11.0	966.
9.0	1098.	9.0	1003.
7.0	1112.	7.0	1047.
5.0	1127.	5.0	1091.
3.0	1138.	3.0	1127.
1.0	1144.	1.0	1143.
0.0	1145.	0.0	1145.
-1.0	1144.	-1.0	1143.
-3.0	1138.	-3.0	1135.
-5.0	1127.	-5.0	1123.
-7.0	1112.	-7.0	1104.
-9.0	1098.	-9.0	1079.
-11.0	1081.	-11.0	1047.
-13.0	1066.	-13.0	1008.
-15.0	1051.	-15.0	969.
-17.0	1037.	-17.0	928.
-19.5	1020.	-19.5	878.
-22.5	993.	-22.5	813.
-25.5	966.	-25.5	750.
-29.0	933.	-29.0	689.
-33.0	904.	-33.0	625.
-37.5	860.	-37.5	536.
-42.5	759.	-42.5	412.
-47.5	591.	-47.5	269.
-55.0	373.	-55.0	139.
-65.0	187.	-65.0	69.
-75.0	71.	-75.0	38.
-85.0	12.	-85.0	12.
-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.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	3.	4.	4.	3.	0.
75.0	30.	30.	30.	30.	30.	29.	28.	28.	28.	28.	28.	28.	28.	29.	30.	31.	31.	29.	23.	16.	9.	4.	0.
65.0	60.	60.	60.	60.	60.	59.	59.	59.	60.	61.	63.	67.	71.	77.	83.	88.	89.	81.	62.	38.	18.	6.	0.
55.0	126.	126.	126.	126.	126.	129.	132.	135.	143.	151.	162.	173.	182.	191.	198.	201.	192.	166.	116.	65.	29.	7.	0.
47.5	261.	260.	262.	264.	265.	270.	276.	283.	289.	299.	308.	317.	321.	324.	326.	319.	293.	245.	163.	89.	37.	9.	0.
42.5	395.	392.	395.	397.	403.	412.	426.	442.	459.	448.	425.	452.	455.	431.	411.	407.	366.	301.	199.	104.	44.	9.	0.
37.5	513.	510.	510.	509.	506.	505.	505.	503.	504.	505.	505.	502.	498.	494.	504.	491.	467.	368.	231.	118.	50.	10.	0.
33.0	605.	603.	603.	600.	596.	593.	590.	587.	584.	584.	581.	576.	568.	563.	558.	546.	496.	426.	259.	133.	54.	10.	0.
29.0	672.	671.	668.	664.	661.	658.	654.	651.	649.	648.	643.	637.	627.	621.	615.	599.	542.	465.	284.	144.	58.	11.	0.
25.5	732.	730.	727.	722.	718.	715.	709.	706.	704.	702.	697.	688.	677.	669.	660.	639.	577.	494.	302.	153.	61.	11.	0.
22.5	786.	784.	780.	776.	771.	766.	759.	755.	751.	748.	742.	730.	717.	706.	695.	669.	601.	484.	315.	160.	63.	11.	0.
19.5	840.	839.	835.	828.	823.	815.	808.	802.	796.	792.	784.	769.	753.	737.	724.	696.	623.	501.	327.	166.	65.	11.	0.
17.0	880.	878.	872.	866.	859.	852.	844.	837.	830.	823.	814.	797.	779.	761.	745.	716.	642.	515.	336.	171.	67.	12.	0.
15.0	910.	908.	903.	896.	888.	879.	871.	862.	854.	846.	835.	818.	798.	779.	762.	732.	654.	525.	342.	174.	68.	12.	0.
13.0	939.	936.	930.	923.	913.	904.	895.	885.	877.	869.	856.	837.	817.	796.	777.	747.	669.	535.	348.	177.	68.	12.	0.
11.0	966.	967.	960.	952.	942.	932.	921.	911.	902.	894.	879.	860.	838.	817.	796.	765.	684.	545.	354.	179.	69.	12.	0.
9.0	1003.	1005.	997.	988.	977.	966.	955.	943.	933.	922.	907.	886.	863.	841.	818.	785.	700.	555.	359.	181.	70.	12.	0.
7.0	1047.	1050.	1040.	1031.	1019.	1007.	994.	982.	969.	957.	941.	917.	893.	868.	842.	805.	717.	564.	363.	183.	70.	12.	0.
5.0	1091.	1093.	1087.	1074.	1061.	1048.	1034.	1020.	1005.	992.	973.	948.	921.	893.	866.	826.	732.	573.	367.	185.	71.	12.	0.
3.0	1127.	1128.	1121.	1109.	1094.	1081.	1065.	1051.	1036.	1021.	1003.	977.	950.	919.	888.	846.	747.	583.	371.	186.	71.	12.	0.
1.0	1143.	1143.	1137.	1125.	1111.	1096.	1080.	1065.	1050.	1035.	1018.	992.	963.	932.	901.	858.	756.	589.	373.	186.	71.	12.	0.
0.0	1145.	1144.	1138.	1127.	1112.	1098.	1081.	1066.	1051.	1037.	1020.	993.	966.	933.	904.	860.	759.	591.	373.	187.	71.	12.	0.
-1.0	1143.	1142.	1135.	1124.	1110.	1095.	1079.	1064.	1049.	1035.	1017.	991.	964.	933.	903.	860.	759.	591.	373.	187.	71.	12.	0.
-3.0	1135.	1134.	1128.	1117.	1102.	1088.	1072.	1057.	1042.	1028.	1010.	986.	959.	929.	900.	859.	759.	592.	373.	186.	71.	12.	0.
-5.0	1123.	1122.	1116.	1105.	1091.	1076.	1060.	1046.	1031.	1017.	999.	975.	949.	919.	890.	850.	754.	590.	372.	186.	71.	12.	0.
-7.0	1104.	1103.	1098.	1087.	1073.	1059.	1043.	1028.	1013.	1000.	982.	958.	933.	903.	876.	838.	745.	585.	370.	185.	71.	12.	0.
-9.0	1079.	1077.	1072.	1062.	1049.	1035.	1020.	1006.	992.	979.	961.	939.	914.	884.	857.	822.	734.	579.	367.	184.	70.	12.	0.
-11.0	1047.	1047.	1041.	1031.	1019.	1005.	991.	977.	965.	953.	936.	915.	891.	862.	836.	802.	719.	570.	362.	182.	70.	12.	0.
-13.0	1008.	1007.	1003.	993.	982.	969.	956.	944.	933.	921.	906.	888.	865.	838.	815.	782.	704.	561.	357.	180.	69.	12.	0.
-15.0	969.	967.	963.	954.	945.	933.	921.	911.	901.	891.	878.	861.	840.	816.	794.	763.	689.	551.	351.	177.	69.	12.	0.
-17.0	928.	927.	923.	915.	906.	896.	886.	876.	868.	859.	849.	833.	814.	792.	773.	744.	674.	541.	345.	175.	68.	12.	0.
-19.5	878.	877.	873.	866.	857.	847.	838.	831.	824.	818.	809.	796.	779.	760.	744.	719.	654.	528.	336.	170.	66.	12.	0.
-22.5	813.	810.	809.	802.	794.	785.	777.	771.	767.	763.	757.	747.	732.	718.	706.	686.	628.	510.	324.	164.	65.	12.	0.
-25.5	750.	750.	746.	740.	732.	724.	717.	712.	709.	707.	703.	695.	682.	672.	664.	649.	598.	494.	310.	157.	62.	11.	0.
-29.0	689.	689.	686.	679.	672.	663.	656.	652.	648.	647.	644.	638.	626.	617.	613.	603.	560.	468.	291.	148.	60.	11.	0.
-33.0	625.	626.	623.	617.	608.	598.	591.	586.	584.	583.	582.	577.	567.	559.	555.	548.	513.	433.	265.	137.	56.	11.	0.
-37.5	536.	536.	534.	528.	520.	512.	508.	505.	507.	510.	512.	508.	500.	492.	486.	479.	451.	382.	237.	123.	51.	10.	0.
-42.5	412.	473.	412.	410.	409.	414.	425.	438.	433.	450.	461.	456.	459.	454.	437.	425.	386.	319.	204.	108.	45.	10.	0.
-47.5	269.	271.	269.	267.	265.	268.	270.	278.	290.	299.	312.	321.	325.	327.	327.	326.	308.	261.	167.	93.	39.	9.	0.
-55.0	139.	136.	135.	133.	130.	128.	130.	134.	139.	149.	161.	175.	185.	195.	202.	208.	203.	178.	122.	70.	32.	8.	0.
-65.0	69.	69.	69.	68.	66.	66.	65.	65.	66.	66.	68.	71.	75.	82.	89.	96.	98.	92.	69.	43.	21.	7.	0.
-75.0	38.	38.	38.	38.	37.	37.	37.	36.	36.	36.	36.	36.	36.	37.	39.	41.	43.	41.	32.	22.	12.	5.	0.
-85.0	12.	12.	13.	14.	15.	15.	15.	14.	14.	14.	13.	13.	13.	12.	13.	13.	13.	12.	10.	8.	5.	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 = 573. CP = 50% OF MAX  
 FIELD EDGE = 115. 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	126.	126.	126.	126.	126.	129.	132.	135.	143.	151.	162.	173.	182.	191.	198.	201.	192.	166.	116.				
47.5	261.	260.	262.	264.	265.	270.	276.	283.	289.	299.	308.	317.	321.	324.	326.	319.	293.	245.	163.				
42.5	395.	392.	395.	397.	403.	412.	426.	442.	459.	448.	425.	452.	455.	431.	411.	407.	366.	301.	199.				
37.5	513.	510.	510.	509.	506.	505.	505.	503.	504.	505.	505.	502.	498.	494.	504.	491.	467.	368.	231.	118.			
33.0	605.	603.	603.	600.	596.	593.	590.	587.	584.	584.	581.	576.	568.	563.	558.	546.	496.	426.	259.	133.			
29.0	672.	671.	668.	664.	661.	658.	654.	651.	649.	648.	643.	637.	627.	621.	615.	599.	542.	465.	284.	144.			
25.5	732.	730.	727.	722.	718.	715.	709.	706.	704.	702.	697.	688.	677.	669.	660.	639.	577.	494.	302.	153.			
22.5	786.	784.	780.	776.	771.	766.	759.	755.	751.	748.	742.	730.	717.	706.	695.	669.	601.	484.	315.	160.			
19.5	840.	839.	835.	828.	823.	815.	808.	802.	796.	792.	784.	769.	753.	737.	724.	696.	623.	501.	327.	166.			
17.0	880.	878.	872.	866.	859.	852.	844.	837.	830.	823.	814.	797.	779.	761.	745.	716.	642.	515.	336.	171.			
15.0	910.	908.	903.	896.	888.	879.	871.	862.	854.	846.	835.	818.	798.	779.	762.	732.	654.	525.	342.	174.			
13.0	939.	936.	930.	923.	913.	904.	895.	885.	877.	869.	856.	837.	817.	796.	777.	747.	669.	535.	348.	177.			
11.0	966.	967.	960.	952.	942.	932.	921.	911.	902.	894.	879.	860.	838.	817.	796.	765.	684.	545.	354.	179.			
9.0	1003.	1005.	997.	988.	977.	966.	955.	943.	933.	922.	907.	886.	863.	841.	818.	785.	700.	555.	359.	181.			
7.0	1047.	1050.	1040.	1031.	1019.	1007.	994.	982.	969.	957.	941.	917.	893.	868.	842.	805.	717.	564.	363.	183.			
5.0	1091.	1093.	1087.	1074.	1061.	1048.	1034.	1020.	1005.	992.	973.	948.	921.	893.	866.	826.	732.	573.	367.	185.			
3.0	1127.	1128.	1121.	1109.	1094.	1081.	1065.	1051.	1036.	1021.	1003.	977.	950.	919.	888.	846.	747.	583.	371.	186.			
1.0	1143.	1143.	1137.	1125.	1111.	1096.	1080.	1065.	1050.	1035.	1018.	992.	963.	932.	901.	858.	756.	589.	373.	186.			
0.0	1145.	1144.	1138.	1127.	1112.	1098.	1081.	1066.	1051.	1037.	1020.	993.	966.	933.	904.	860.	759.	591.	373.	187.			
-1.0	1143.	1142.	1135.	1124.	1110.	1095.	1079.	1064.	1049.	1035.	1017.	991.	964.	933.	903.	860.	759.	591.	373.	187.			
-3.0	1135.	1134.	1128.	1117.	1102.	1088.	1072.	1057.	1042.	1028.	1010.	986.	959.	929.	900.	859.	759.	592.	373.	186.			
-5.0	1123.	1122.	1116.	1105.	1091.	1076.	1060.	1046.	1031.	1017.	999.	975.	949.	919.	890.	850.	754.	590.	372.	186.			
-7.0	1104.	1103.	1098.	1087.	1073.	1059.	1043.	1028.	1013.	1000.	982.	958.	933.	903.	876.	838.	745.	585.	370.	185.			
-9.0	1079.	1077.	1072.	1062.	1049.	1035.	1020.	1006.	992.	979.	961.	939.	914.	884.	857.	822.	734.	579.	367.	184.			
-11.0	1047.	1047.	1041.	1031.	1019.	1005.	991.	977.	965.	953.	936.	915.	891.	862.	836.	802.	719.	570.	362.	182.			
-13.0	1008.	1007.	1003.	993.	982.	969.	956.	944.	933.	921.	906.	888.	865.	838.	815.	782.	704.	561.	357.	180.			
-15.0	969.	967.	963.	954.	945.	933.	921.	911.	901.	891.	878.	861.	840.	816.	794.	763.	689.	551.	351.	177.			
-17.0	928.	927.	923.	915.	906.	896.	886.	876.	868.	859.	849.	833.	814.	792.	773.	744.	674.	541.	345.	175.			
-19.5	878.	877.	873.	866.	857.	847.	838.	831.	824.	818.	809.	796.	779.	760.	744.	719.	654.	528.	336.	170.			
-22.5	813.	810.	809.	802.	794.	785.	777.	771.	767.	763.	757.	747.	732.	718.	706.	686.	628.	510.	324.	164.			
-25.5	750.	750.	746.	740.	732.	724.	717.	712.	709.	707.	703.	695.	682.	672.	664.	649.	598.	494.	310.	157.			
-29.0	689.	689.	686.	679.	672.	663.	656.	652.	648.	647.	644.	638.	626.	617.	613.	603.	560.	468.	291.	148.			
-33.0	625.	626.	623.	617.	608.	598.	591.	586.	584.	583.	582.	577.	567.	559.	555.	548.	513.	433.	265.	137.			
-37.5	536.	536.	534.	528.	520.	512.	508.	505.	507.	510.	512.	508.	500.	492.	486.	479.	451.	382.	237.	123.			
-42.5	412.	473.	412.	410.	409.	414.	425.	438.	433.	450.	461.	456.	459.	454.	437.	425.	386.	319.	204.				
-47.5	269.	271.	269.	267.	265.	268.	270.	278.	290.	299.	312.	321.	325.	327.	327.	326.	308.	261.	167.				
-55.0	139.	136.	135.	133.	130.	128.	130.	134.	139.	149.	161.	175.	185.	195.	202.	208.	203.	178.	122.				
-65.0																							
-75.0																							
-85.0																							
-90.0																							

BEAM EDGE = 573. CP = 50% OF MAX  
 FIELD EDGE = 115. CP = 10% OF MAX

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 ISSUE DATE: 06/27/16  
 PREPARED FOR: RAB LIGHTING INC.

PAGE: 5 OF 7  
 DATE SAMPLE TESTED: 06/27/16

### 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.	5.
70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	0.	0.	11.
60	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	0.	0.	0.	25.
50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	1.	1.	1.	0.	0.	22.
45	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.	0.	0.	0.	30.
40	2.	2.	2.	2.	2.	2.	1.	1.	1.	2.	2.	2.	2.	3.	3.	3.	3.	2.	2.	1.	0.	0.	36.
35	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.	0.	0.	0.	33.
31	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	2.	2.	2.	1.	0.	0.	36.
27	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.	0.	0.	29.
24	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	2.	1.	0.	0.	31.
21	2.	2.	2.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.	0.	0.	32.
18	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	1.	1.	1.	0.	0.	0.	22.
16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	1.	1.	1.	0.	0.	0.	23.
14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	23.
12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
10	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	25.
8	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	26.
6	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	26.
4	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	27.
2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	28.
0	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	28.
-2	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	27.
-4	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	27.
-6	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	27.
-8	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	27.
-10	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.	0.	0.	26.
-12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	26.
-14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	25.
-16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	24.
-18	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	0.	0.	0.	23.
-21	2.	2.	2.	2.	2.	2.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.	0.	0.	33.
-24	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.	0.	0.	32.
-27	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.	0.	0.	29.
-31	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	3.	2.	2.	1.	0.	0.	36.
-35	2.	2.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.	0.	0.	33.
-40	2.	2.	2.	2.	2.	2.	1.	1.	1.	1.	2.	2.	2.	3.	2.	3.	3.	2.	2.	1.	0.	0.	36.
-45	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.	0.	0.	31.
-50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	1.	0.	0.	22.
-60	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	3.	2.	2.	2.	1.	0.	0.	26.
-70	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	0.	0.	12.
-80	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	1.	0.	0.	0.	6.
-90	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	2.
	48.	48.	47.	47.	46.	45.	45.	44.	44.	64.	63.	60.	77.	73.	84.	71.	53.	58.	23.	6.	0.	0.	1046.

LUMEN TOTAL THIS PAGE = 1046.

REPORT NUMBER: RAB02143  
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 PREPARED FOR: RAB LIGHTING INC.

PAGE: 6 OF 7  
 DATE SAMPLE TESTED: 06/27/16

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

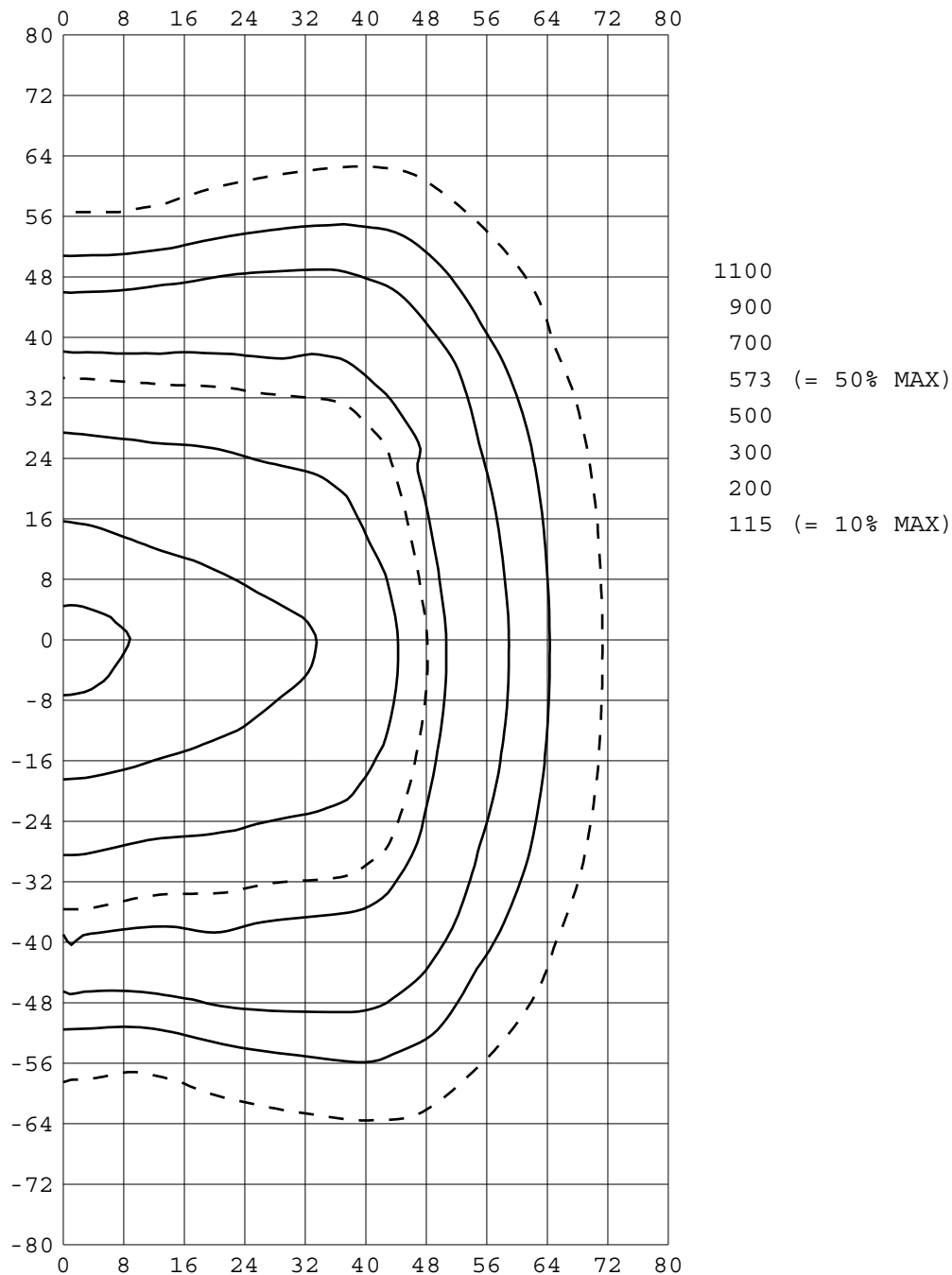
	0	2	4	6	8	10	12	14	16	18	21	24	27	31	35	40	45	50	60	70	80	90	TOTAL
90																							0.
80																							0.
70																							0.
60																							
50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.				24.
45	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	1.	1.				21.
40	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.				29.
35	2.	2.	2.	2.	2.	2.	1.	1.	1.	2.	2.	2.	3.	3.	3.	3.	2.	2.	1.				35.
31	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.				32.
27	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	2.	2.	2.	1.				36.
24	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.				29.
21	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	1.	2.	1.			31.
18	2.	2.	2.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.				32.
16	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	1.	1.	1.	0.				22.
14	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	1.	1.	1.	0.				23.
12	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	0.				23.
10	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.				24.
8	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.				25.
6	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	2.	2.	2.	2.	1.	1.	0.				26.
4	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.				26.
2	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.				27.
0	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.				27.
-2	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.				27.
-4	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.				27.
-6	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.				27.
-8	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.				27.
-10	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	1.	1.	0.				26.
-12	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	1.	2.	2.	2.	2.	1.	1.	0.				25.
-14	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.				25.
-16	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	1.	1.	2.	2.	2.	2.	1.	1.	0.				24.
-18	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.	0.				23.
-21	2.	2.	2.	2.	2.	2.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.				33.
-24	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.				31.
-27	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	2.	2.	2.	2.	1.				29.
-31	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	2.	3.	3.	3.	3.	2.	1.				36.
-35	2.	2.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.	1.				33.
-40	2.	2.	2.	2.	2.	2.	1.	1.	1.	2.	2.	2.	3.	2.	3.	3.	2.	2.	1.				36.
-45	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	2.	3.	2.	2.	2.					30.
-50	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	2.	1.	1.					21.
-60	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	1.	2.	2.	2.	3.	2.	2.	2.					25.
-70																							0.
-80																							0.
-90																							0.
	47.	46.	46.	45.	45.	44.	44.	43.	43.	63.	61.	59.	74.	70.	80.	68.	51.	55.	17.	0.	0.		999.

LUMEN TOTAL THIS PAGE = 999.

REPORT NUMBER: RAB02143  
ISSUE DATE: 06/27/16  
PREPARED FOR: RAB LIGHTING INC.

PAGE: 7 OF 7  
DATE SAMPLE TESTED: 06/27/16

ISOCANDELA CURVES  
AVERAGE OF RIGHT AND LEFT SIDES



REPORT NUMBER: RAB02144  
 DATE: 6/23/2016  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: PIP15/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	Calibration Due: 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: RAB02144  
 DATE: 6/23/2016  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: PIP15/D10

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### RESULTS:

PHOTOMETRIC	
Total Integrated Flux (lumens)	2091 *
SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3440
Chromaticity Ordinate y	0.3532
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.2100
Chromaticity Ordinate v'	0.4853
Correlated Color Temp CCT (K)	5048
ANSI C78.377-2008 Duv	0.001
Total Radiant Flux (milliWatts)	6339 *
ELECTRICAL	
Input Voltage (Volts AC)	277.0
Input Current (Amps AC)	0.061
Input Power (Watts)	15.6
Input Power Factor (%)	92.6
Input Current THD (%)	18.1
Input Voltage THD (%)	0.2
EFFICACY (Lumens/Watt)	
	134.0
ELECTRICAL AT MAX NONIMAL INPUT	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.127
Input Power (Watts)	14.9
Input Power Factor (%)	98.2
Input Current THD (%)	17.0
Input Voltage THD (%)	0.2
Off-State Power (Watts)	
	0.0

COLOR RENDERING INDICES	CRI
Ra (Average 1-8)	77
R1 Light greyish red	75
R2 Dark greyish yellow	82
R3 Strong yellowish green	86
R4 Moderate yellowish green	76
R5 Light bluish green	75
R6 Light blue	75
R7 Light violet	84
R8 Light reddish purple	61
R9 Strong red	-14
R10 Strong yellow	57
R11 Strong green	73
R12 Strong blue	49
R13 Light yellowish pink (skin)	76
R14 Moderate olive green (leaf)	92

### \*NOTE:

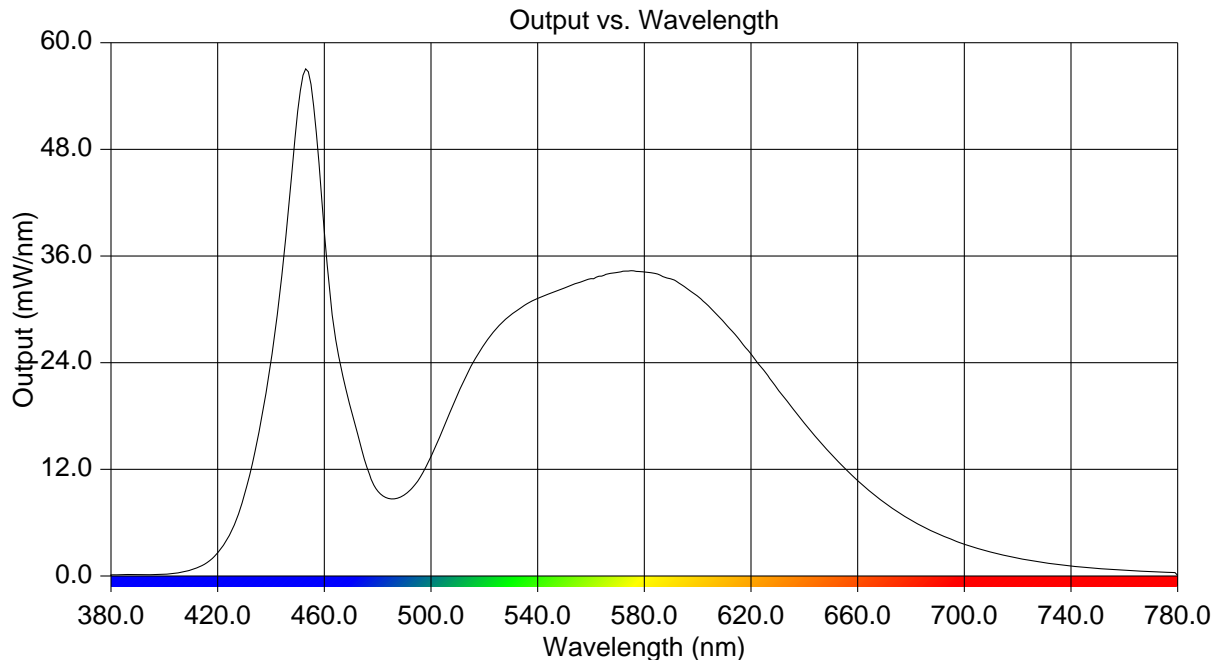
Proper calibration of integrating spheres for measuring total flux output of non-directional samples will produce reliable, repeatable results within the calibration tolerances of the equipment used. However, measurement of test samples with significant self absorption and/or directional output, even 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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 DATE: 6/23/2016  
 PREPARED FOR: RAB LIGHTING INC.  
 CATALOG NUMBER: PIP15/D10

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### RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	0.125	515	23.606	650	13.710
385	0.136	520	26.033	655	12.174
390	0.140	525	28.006	660	10.716
395	0.160	530	29.405	665	9.428
400	0.220	535	30.442	670	8.253
405	0.344	540	31.240	675	7.222
410	0.653	545	31.801	680	6.281
415	1.309	550	32.397	685	5.469
420	2.584	555	32.966	690	4.751
425	4.946	560	33.450	695	4.154
430	8.986	565	33.843	700	3.577
435	15.499	570	34.153	705	3.098
440	24.252	575	34.347	710	2.685
445	36.434	580	34.204	715	2.321
450	52.264	585	33.969	720	2.008
455	55.319	590	33.420	725	1.736
460	38.716	595	32.562	730	1.498
465	25.341	600	31.481	735	1.296
470	18.743	605	30.099	740	1.124
475	13.140	610	28.495	745	0.982
480	9.546	615	26.832	750	0.849
485	8.684	620	24.978	755	0.739
490	9.101	625	23.091	760	0.644
495	10.657	630	21.018	765	0.559
500	13.441	635	19.101	770	0.490
505	16.868	640	17.196	775	0.426
510	20.464	645	15.411	780	0.065



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## CIE Chromaticity Diagram

