

REPORT NUMBER: ITL74387

PAGE: 1 OF 5

ISSUE DATE: 09/13/12

PREPARED FOR: RAB LIGHTING, INC.

CATALOG NUMBER: AISLED78 (FLAT GLASS LENS - CEILING AND/OR PENDENT MOUNT - AISLE DISTRIBUTION)

LUMINAIRE: CAST 2-PIECE WHITE PAINTED FINNED METAL HOUSING, 3 FLAT METAL HEAT SINKS, 3 CIRCUIT BOARDS EACH WITH 1 LED AND MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, MOLDED PLASTIC TRIM WITH SPECULAR FINISH AND 1 APERTURE PER LED, CLEAR FLAT GLASS LENS IN CAST WHITE PAINTED METAL LENS FRAME.

LAMPS: THREE WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDs), VERTICAL BASE-UP POSITION.

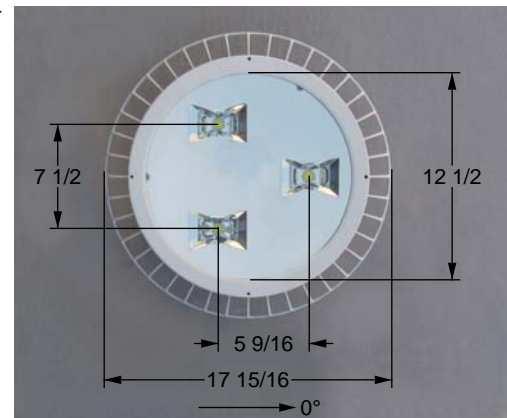
TOTAL INPUT WATTS = 96.1 AT 120.0 VOLTS

LED DRIVERS: THREE RAB RDF25U7-02

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LED DRIVERS.

TEST PROCEDURE: IESNA LM-79-08

TEST DISTANCE = 25.25 FEET



CANDELA DISTRIBUTION						FLUX
	0.0	25.0	45.0	65.0	90.0	
0	4048	4048	4048	4048	4048	
5	4297	4240	4146	4112	4137	406
15	4690	4644	4355	3872	3662	1184
25	4632	4742	3601	2359	2023	1593
35	3723	3956	2019	964	957	1450
45	1707	2675	811	316	240	902
55	130	1104	739	218	178	461
65	46	592	325	100	104	250
75	41	35	85	70	47	71
85	2	2	1	1	8	6
90	0	0	0	0	0	

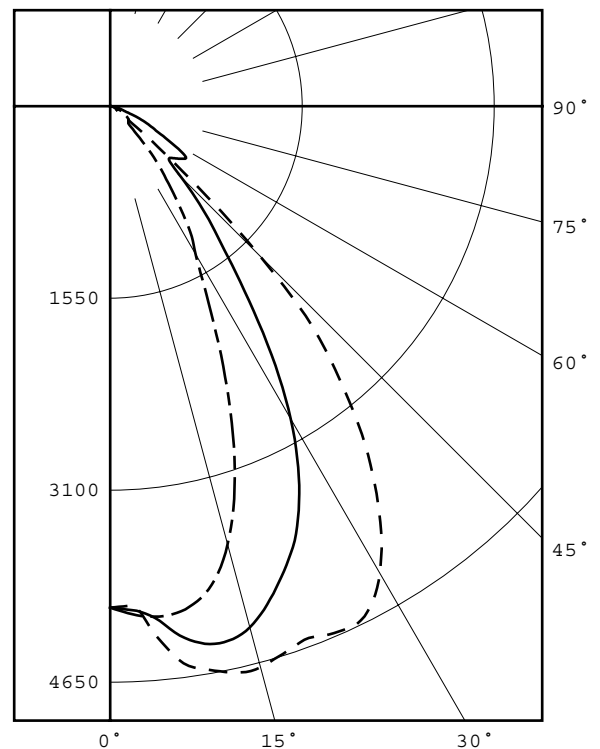
ZONAL LUMEN SUMMARY		
ZONE	LUMENS	%FIXT
0- 30	3183	50.3
0- 40	4633	73.3
0- 60	5995	94.8
0- 90	6322	100.0
90-180	0	0.0
0-180	6322	100.0

EFFICACY = 65.8 lm/W

CIE TYPE - DIRECT

PLANE : 0-DEG 90-DEG
SPACING CRITERIA : 1.41 0.81
BEAM ANGLE (50%) : 85.4 X 46.1 DEGREES
FIELD ANGLE (10%) : 99.6 X 82.8 DEGREES
LUMINOUS DIAMETER: 12.500

LUMINANCE DATA IN CANDELA/SQ M			
ANGLE	AVERAGE	AVERAGE	AVERAGE
IN DEG	0-DEG	45-DEG	90-DEG
45	30491.	14486.	4287.
55	2863.	16273.	3920.
65	1375.	9713.	3108.
75	2001.	4148.	2294.
85	290.	145.	1159.



LEGEND:
0-deg -----
45-deg =====
90-deg -----

Checked S. BERGIN
Approved R. BEATTIE
Lighting Engineer



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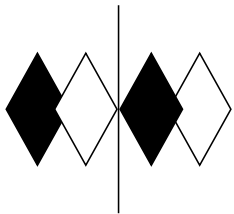
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CANDELA DISTRIBUTION LATERAL ANGLE

	0.0	5.0	15.0	25.0	35.0	45.0	55.0	65.0	75.0	85.0	90.0
0.0	4048	4048	4048	4048	4048	4048	4048	4048	4048	4048	4048
2.5	4033	4035	4036	4046	4060	4072	4086	4093	4092	4100	4106
5.0	4297	4296	4274	4240	4199	4146	4100	4112	4125	4132	4137
7.5	4536	4535	4526	4494	4411	4310	4211	4108	4100	4120	4126
10.0	4621	4616	4609	4586	4530	4406	4261	4127	4018	4051	4057
12.5	4683	4676	4670	4622	4529	4420	4219	4066	3910	3902	3911
15.0	4690	4686	4689	4644	4522	4355	4094	3872	3695	3648	3662
17.5	4636	4640	4669	4651	4497	4217	3898	3584	3371	3311	3326
20.0	4585	4599	4649	4671	4456	4043	3586	3204	2973	2910	2920
22.5	4617	4635	4690	4693	4398	3853	3213	2779	2535	2458	2467
25.0	4632	4652	4713	4742	4324	3601	2850	2359	2104	2021	2023
27.5	4551	4578	4642	4700	4207	3286	2463	1975	1783	1671	1649
30.0	4352	4380	4474	4575	4000	2915	2010	1588	1492	1417	1378
32.5	4071	4081	4205	4302	3687	2484	1565	1223	1173	1205	1201
35.0	3723	3700	3848	3956	3256	2019	1178	964	885	942	957
37.5	3337	3325	3515	3615	2822	1615	912	769	702	732	744
40.0	2888	2927	3156	3354	2516	1312	741	604	558	574	581
42.5	2428	2488	2762	3065	2283	1065	599	464	401	389	387
45.0	1707	1777	2158	2675	1962	811	437	316	264	242	240
47.5	922	984	1416	2071	1580	646	341	250	218	197	198
50.0	437	488	865	1461	1230	650	331	235	209	186	191
52.5	207	261	635	1137	1193	696	346	230	209	181	187
55.0	130	181	588	1104	1195	739	344	218	201	178	178
57.5	80	111	555	1069	1088	680	300	196	174	162	160
60.0	59	67	394	950	954	517	243	161	155	158	160
62.5	51	51	202	784	820	402	184	129	136	135	136
65.0	46	46	90	592	695	325	137	100	113	108	104
67.5	41	42	52	387	589	242	89	74	101	93	84
70.0	39	39	42	220	462	153	53	76	94	75	60
72.5	39	39	39	102	301	108	22	83	85	60	49
75.0	41	41	36	35	139	85	12	70	75	51	47
77.5	35	34	29	18	42	60	9	50	65	44	41
80.0	25	24	16	12	22	30	6	20	33	23	21
82.5	13	12	8	7	8	9	3	4	10	12	12
85.0	2	1	1	2	1	1	1	1	2	6	8
87.5	0	0	0	0	0	0	0	0	1	1	1
90.0	0	0	0	0	0	0	0	0	0	0	0



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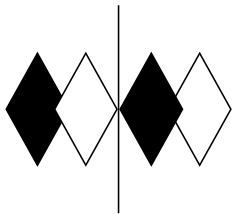
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5-DEGREE
ZONAL LUMEN SUMMARY

0- 5	98
5- 10	308
10- 15	512
15- 20	672
20- 25	774
25- 30	820
30- 35	779
35- 40	671
40- 45	548
45- 50	354
50- 55	243
55- 60	218
60- 65	155
65- 70	95
70- 75	50
75- 80	21
80- 85	5
85- 90	0

10-DEGREE
ZONAL LUMEN SUMMARY

0- 10	406
0- 20	1590
0- 30	3183
0- 40	4633
0- 50	5535
0- 60	5995
0- 70	6245
0- 80	6316
0- 90	6322



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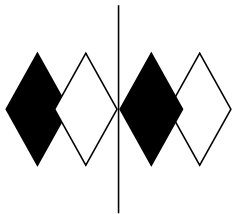
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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

EFFECTIVE FLOOR CAVITY REFLECTANCE 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	109	106	103	110	107	104	101	102	100	98	99	97	95	95	94	92	91
2	105	99	94	90	103	97	93	89	94	90	87	91	88	85	88	85	83	81
3	98	90	84	79	96	89	83	78	86	81	77	83	79	76	81	78	75	73
4	92	82	76	71	90	81	75	70	79	74	69	77	72	68	75	71	68	66
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	60
6	81	70	63	57	79	69	62	57	67	61	57	66	60	56	64	60	56	54
7	76	65	57	52	74	64	57	52	62	56	52	61	56	52	60	55	51	50
8	71	60	53	48	70	59	53	48	58	52	48	57	51	47	56	51	47	46
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	44	42
10	63	52	45	41	62	52	45	41	51	45	41	50	44	41	49	44	40	39

ALL CANDELA, LUMENS, LUMINANCE, AND VCP VALUES IN THIS REPORT ARE BASED ON ABSOLUTE PHOTOMETRY. THE COEFFICIENT OF UTILIZATION VALUES ARE BASED ON THE TOTAL ABSOLUTE LUMEN OUTPUT OF THIS TEST SAMPLE.



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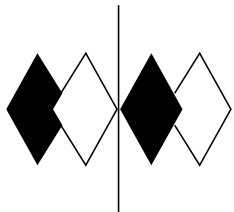
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PREPARED FOR: RAB LIGHTING, INC.
CATALOG NUMBER: AISLED78 (FLAT GLASS LENS - CEILING AND/OR PENDENT MOUNT - AISLE DISTRIBUTION)

ADDRESS: 170 LUDLOW AVE
NORTHVALE, NJ 07647

LUMINAIRE: CAST 2-PIECE WHITE PAINTED FINNED METAL HOUSING, 3 FLAT METAL HEAT SINKS, 3 CIRCUIT BOARDS EACH WITH 1 LED AND MOLDED PLASTIC REFLECTOR WITH SPECULAR FINISH, MOLDED PLASTIC TRIM WITH SPECULAR FINISH AND 1 APERTURE PER LED, CLEAR FLAT GLASS LENS IN CAST WHITE PAINTED METAL LENS FRAME.

LAMP: THREE WHITE MULTI-CHIP LIGHT EMITTING DIODES (LEDs), VERTICAL BASE-UP POSITION.

DRIVER: THREE RAB RDF25U7-02

NOTE: DATA SHOWN IS ABSOLUTE FOR THE SAMPLE PROVIDED AT RATED INPUT VOLTAGE (120VAC, 60Hz) TO THE LED DRIVERS.

		Calibration Due:
INSTRUMENTS:	Associated Power Technologies APT6040 AC Power Source	N/A
	Yokogawa WT210 Digital Power Meter #8	01/26/13
	Ocean Optics QE65000 Spectroradiometer	06/05/13
	ITL 2.0 meter Diameter Integrating Sphere, 4PI Geometry	06/05/13

OBJECT OF TEST: Measure the 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. 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 120VAC 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)

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Checked	<i>T BERGER</i>
Approved	<i>N GULLY</i>
	Lighting Engineer



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NVLAP LAB CODE: 200925-0

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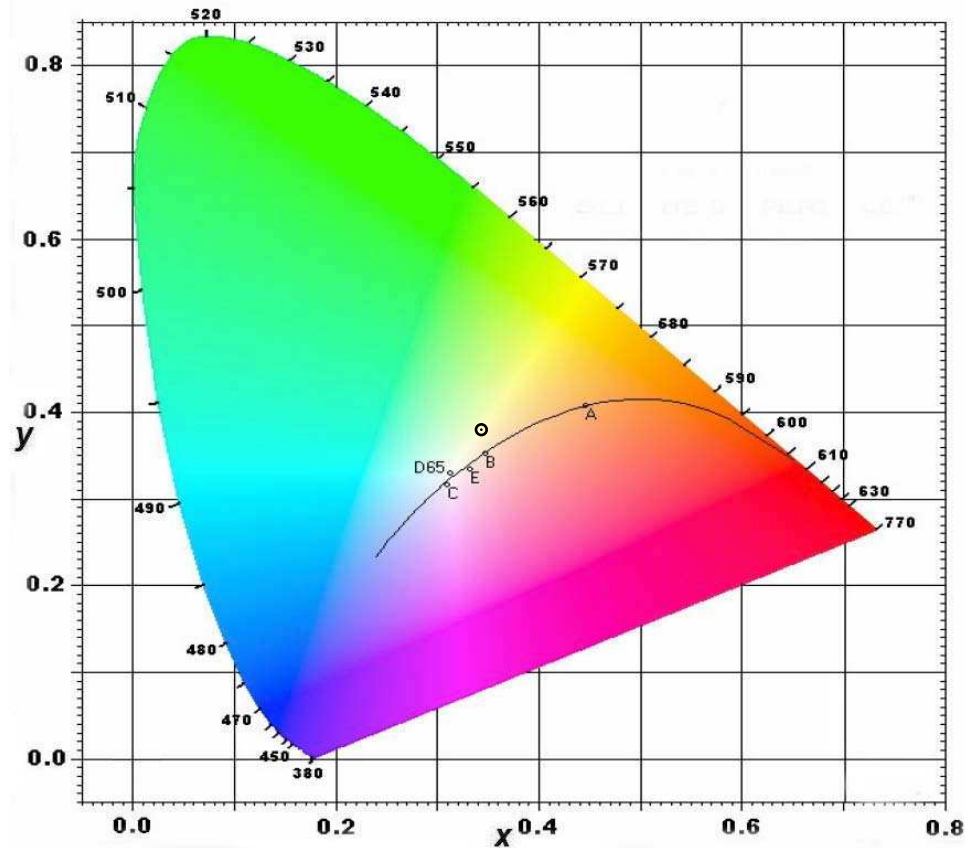
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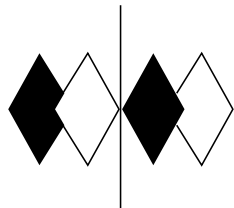
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CIE Chromaticity Diagram





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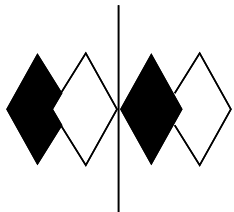
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RESULTS:

SPECTRORADIOMETRIC	
Observer	CIE 1931 2 degree
Chromaticity Ordinate x	0.3431
Chromaticity Ordinate y	0.3795
Observer	CIE 1976 2 degree
Chromaticity Ordinate u'	0.1998
Chromaticity Ordinate v'	0.4973
Correlated Color Temp CCT (K)	5148
Color Rendering Index (CRIa)	68
Color Rendering Index 1 (Light greyish red)	62
Color Rendering Index 2 (Dark greyish yellow)	73
Color Rendering Index 3 (Strong yellowish green)	82
Color Rendering Index 4 (Moderate yellowish green)	66
Color Rendering Index 5 (Light bluish green)	63
Color Rendering Index 6 (Light blue)	63
Color Rendering Index 7 (Light violet)	83
Color Rendering Index 8 (Light reddish purple)	51
Color Rendering Index 9 (Strong red)	-51
Color Rendering Index 10 (Strong yellow)	36
Color Rendering Index 11 (Strong green)	59
Color Rendering Index 12 (Strong blue)	30
Color Rendering Index 13 (Light yellowish pink (skin))	64
Color Rendering Index 14 (Moderate olive green (leaf))	90
ANSI C78.377-2008 Duv	0.014
Total Radiant Flux (milliWatts)	17974 *
ELECTRICAL FOR SPECTRORADIOMETRIC TEST	
Input Voltage (Volts AC)	120.0
Input Current (Amps AC)	0.814
Input Power (Watts)	95.9
Input Power Factor (%)	98.2
Input Current THD (%)	13.0
Input Voltage THD (%)	0.1
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.



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RESULTS:

Wavelength	mW per nm	Wavelength	mW per nm	Wavelength	mW per nm
380	2.033	515	67.457	650	35.591
385	2.128	520	80.405	655	31.967
390	2.221	525	90.989	660	28.646
395	2.606	530	98.897	665	25.602
400	2.495	535	104.430	670	22.811
405	2.587	540	107.940	675	20.286
410	2.899	545	109.867	680	18.037
415	4.306	550	110.597	685	15.960
420	7.673	555	110.327	690	14.118
425	13.952	560	109.393	695	12.470
430	23.752	565	107.758	700	10.975
435	39.421	570	105.706	705	9.671
440	59.672	575	103.031	710	8.512
445	91.984	580	99.814	715	7.470
450	133.051	585	96.161	720	6.564
455	140.585	590	92.150	725	5.760
460	101.937	595	87.771	730	5.058
465	67.227	600	83.057	735	4.428
470	49.214	605	78.130	740	3.878
475	34.867	610	73.074	745	3.403
480	25.435	615	67.919	750	2.991
485	21.571	620	62.743	755	2.630
490	21.106	625	57.699	760	2.311
495	23.607	630	52.765	765	2.040
500	30.065	635	48.089	770	1.793
505	40.798	640	43.693	775	1.571
510	53.497	645	39.508	780	1.353

