

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO

Report Number: P85571

Luminaire Tested: **ML712835TUNVD010-495PWW06-H750ICAT**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: P85571  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: ML712835TUNVD010-495PWW06-H750ICAT  
Description: HALO 6 INCH LED DOWNLIGHT WITH 1200 Lmn MODULE, DIFFUSE LENS AND WHITE REFLECTOR WITH PLASTIC SPECULAR KICKER  
---ABSOLUTE PHOTOMETRY IS BASED ON CALIBRATION FACTORS CREATED USING A 500 WATT, NIST TRACEABLE, OMNI-DIRECTIONAL LAB LUMEN STANDARD IN THE GONIOPHOTOMETER WITH TEST DISTANCE OF 28.75 FEET---  
Light Source: (1)SMT LED 3500K  
CL-L241-C26L2-A  
Ballast/Driver: (1)ELECTRONIC DRIVER  
RHPS314D-CLO

**Summary**

Lumens per Lamp: 1395 (1 lamp)  
Luminaire Lumens: 1394.8 lumens  
Efficiency: 100.0%  
Efficacy: 57.4 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.23 / 1.28  
Luminous Opening: Vertical Cylinder (Dia: 0.48' x H: 0.1')  
CIE Type: Direct

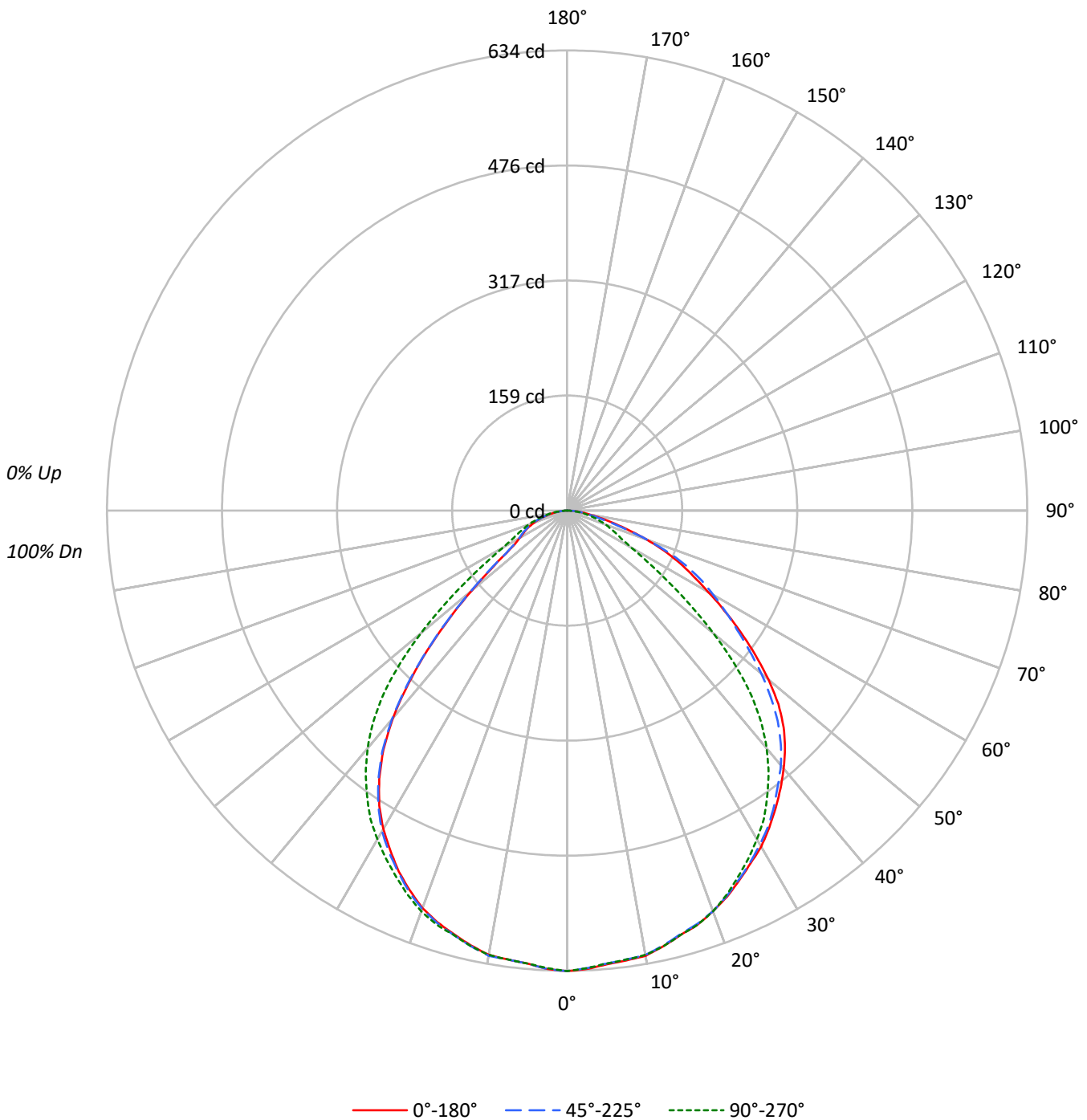
Input Watts (W): 24.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 0.2037  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: 6 HR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20					20					20					20					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	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87					87			
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75					75			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65					65			
4	86	76	68	62	84	74	67	61	72	66	60	70	64	60	68	63	59	57					57			
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50					50			
6	74	62	54	48	72	61	53	48	59	52	47	58	52	47	56	51	46	45					45			
7	69	57	48	43	68	56	48	43	54	47	42	53	47	42	52	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	43	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	35	31	30					30			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	37874	37874	37874
5°	36739	36674	36674
10°	36059	35990	35990
15°	34908	34908	34844
20°	34028	34028	33756
25°	32910	32640	32154
30°	31946	31247	30261
35°	30756	29527	27721
40°	29570	27251	23810
45°	28131	23903	18181
50°	25524	18563	12103
55°	21983	12674	7710
60°	18346	8257	6148
65°	15439	6658	5605
70°	11732	5689	4862
75°	7480	4493	3810
80°	4347	3222	2578
85°	2392	1595	1187



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	59.7	4.3	4.3
10°-20°	170.9	12.3	12.3
20°-30°	256.0	18.4	18.3
30°-40°	296.7	21.3	21.3
40°-50°	264.8	19.0	19.0
50°-60°	174.0	12.5	12.5
60°-70°	110.7	7.9	7.9
70°-80°	50.3	3.6	3.6
80°-90°	11.8	0.8	0.8
90°-100°	0.0	0.0	0.0
100°-110°	0.0	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	486.6	34.9	34.9
0°-40°	783.3	56.2	56.1
0°-60°	1222.1	87.6	87.6
0°-90°	1394.8	100.0	100.0
90°-120°	0.0	0.0	0.0
90°-150°	0.0	0.0	0.0
90°-180°	0.0	0.0	0.0
0°-180°	1394.8	100.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	634	634	634	634	634	
5°	627	626	626	626	626	60
15°	605	604	605	605	604	171
25°	562	560	557	550	549	259
35°	501	497	481	454	451	313
45°	422	410	358	274	273	323
55°	291	286	168	103	102	261
65°	172	182	74	63	62	169
75°	65	58	39	35	33	72
85°	14	13	9	8	7	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5
2.5°	632.2	631.0	631.0	631.0	631.0	631.0	631.0	631.0	631.0	631.0	631.0
5°	627.4	626.3	626.3	626.3	626.3	626.3	626.3	626.3	626.3	626.3	626.3
7.5°	625.1	625.1	625.1	623.9	623.9	625.1	625.1	623.9	625.1	623.9	623.9
10°	622.8	621.6	621.6	621.6	621.6	621.6	621.6	621.6	621.6	621.6	621.6
12.5°	614.5	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4	613.4
15°	605.1	604.0	604.0	604.0	604.0	604.0	604.0	604.0	604.0	604.0	604.0
17.5°	598.1	596.9	596.9	596.9	596.9	596.9	596.9	596.9	596.9	596.9	596.9
20°	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5	587.5
22.5°	575.8	574.6	574.6	574.6	574.6	574.6	574.6	574.6	574.6	574.6	574.6
25°	561.6	560.5	560.5	560.5	560.5	560.5	560.5	560.5	560.5	560.5	560.5
27.5°	547.6	547.6	547.6	546.4	547.6	546.4	546.4	546.4	545.2	546.4	545.2
30°	534.6	533.4	533.4	533.4	533.4	533.4	532.3	532.3	532.3	531.1	531.1
32.5°	518.2	518.2	518.2	517.0	517.0	517.0	515.8	517.0	515.8	515.8	514.6
35°	500.6	500.6	500.6	499.4	499.4	499.4	498.2	498.2	497.0	497.0	495.8
37.5°	482.9	481.8	481.8	481.8	480.6	480.6	479.4	479.4	478.2	477.0	475.9
40°	464.1	464.1	463.0	463.0	463.0	461.8	460.6	459.4	458.2	458.2	455.9
42.5°	444.2	443.0	443.0	443.0	441.8	440.6	439.4	438.3	437.1	435.9	433.6
45°	421.8	420.6	420.6	419.5	418.3	417.1	416.0	413.6	412.4	410.1	407.7
47.5°	394.8	393.6	393.6	392.4	391.3	390.1	387.8	385.4	383.0	380.7	378.4
50°	361.9	361.9	360.7	359.6	358.4	350.2	356.0	353.7	351.3	349.0	345.4
52.5°	326.7	326.7	325.5	325.5	325.5	324.3	322.0	320.8	318.4	316.1	312.6
55°	291.4	291.4	291.4	291.4	291.4	291.4	290.2	289.0	287.9	285.5	284.4
57.5°	257.3	257.3	257.3	258.5	258.5	259.7	259.7	259.7	258.5	258.5	257.3
60°	224.4	224.4	225.6	226.8	228.0	229.1	230.3	231.5	232.6	232.6	233.8
62.5°	196.2	197.4	198.6	199.8	200.9	202.1	204.5	205.6	206.8	209.2	210.3
65°	171.6	171.6	172.7	173.9	175.1	176.2	177.4	178.6	181.0	182.1	184.5
67.5°	144.5	144.5	144.5	144.5	145.7	145.7	146.9	148.0	150.4	151.6	152.8
70°	116.3	116.3	115.2	115.2	115.2	115.2	115.2	115.2	115.2	116.3	117.5
72.5°	88.1	88.1	87.0	87.0	85.8	84.6	83.4	83.4	82.2	83.4	83.4
75°	64.6	64.6	63.4	62.3	61.1	61.1	59.9	58.8	57.6	57.6	57.6
77.5°	45.8	45.8	45.8	44.6	43.5	43.5	42.3	41.1	41.1	40.0	38.8
80°	31.7	31.7	31.7	31.7	30.6	29.4	29.4	29.4	28.2	28.2	27.0
82.5°	22.3	22.3	21.2	21.2	21.2	21.2	21.2	20.0	20.0	20.0	18.8
85°	14.1	14.1	14.1	14.1	14.1	14.1	12.9	12.9	12.9	12.9	11.8
87.5°	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	5.9	5.9	5.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5
2.5°	631.0	631.0	631.0	631.0	632.2	631.0	631.0	631.0	631.0	631.0	632.2
5°	626.3	626.3	626.3	625.1	626.3	626.3	626.3	626.3	626.3	626.3	626.3
7.5°	625.1	623.9	625.1	623.9	623.9	625.1	623.9	623.9	623.9	623.9	623.9
10°	621.6	621.6	621.6	621.6	621.6	621.6	621.6	621.6	621.6	621.6	621.6
12.5°	613.4	613.4	613.4	614.5	613.4	614.5	614.5	614.5	614.5	614.5	614.5
15°	605.1	605.1	605.1	605.1	605.1	605.1	605.1	605.1	605.1	605.1	605.1
17.5°	598.1	598.1	598.1	596.9	596.9	598.1	598.1	598.1	596.9	596.9	596.9
20°	587.5	587.5	587.5	588.7	587.5	587.5	587.5	587.5	587.5	586.3	586.3
22.5°	574.6	574.6	574.6	574.6	574.6	574.6	573.4	573.4	573.4	572.2	572.2
25°	560.5	559.3	560.5	559.3	559.3	558.1	558.1	557.0	555.8	555.8	554.6
27.5°	546.4	545.2	545.2	544.0	542.8	542.8	541.7	540.5	539.3	538.2	537.0
30°	531.1	531.1	529.9	528.8	527.6	526.4	525.2	522.9	521.7	519.4	518.2
32.5°	514.6	513.5	512.3	511.1	510.0	508.8	506.4	504.1	500.6	498.2	495.8
35°	495.8	493.5	492.3	491.2	488.8	486.4	484.1	480.6	477.0	473.5	468.8
37.5°	474.7	473.5	472.4	468.8	466.5	463.0	459.4	455.9	450.0	444.2	438.3
40°	454.7	452.4	450.0	446.5	443.0	438.3	433.6	427.7	421.8	412.4	403.0
42.5°	432.4	428.9	425.4	420.6	416.0	410.1	404.2	396.0	386.6	374.8	361.9
45°	405.4	401.8	397.2	391.3	384.2	376.0	367.8	358.4	346.6	331.4	316.1
47.5°	376.0	371.3	365.4	357.2	346.6	336.0	325.5	312.6	299.6	284.4	266.7
50°	341.9	337.2	329.0	318.4	305.5	291.4	277.3	263.2	249.1	232.6	217.4
52.5°	310.2	304.3	294.9	279.7	263.2	245.6	228.0	213.8	199.8	184.5	170.4
55°	280.8	275.0	263.2	245.6	224.4	203.3	183.3	168.0	155.1	143.4	131.6
57.5°	256.2	250.3	236.2	216.2	191.5	166.8	145.7	130.4	118.7	110.4	102.2
60°	232.6	226.8	213.8	192.7	165.7	139.8	116.3	101.0	92.8	87.0	83.4
62.5°	210.3	205.6	192.7	172.7	146.9	121.0	98.7	84.6	77.6	74.0	72.9
65°	184.5	181.0	170.4	151.6	128.1	104.6	85.8	74.0	69.3	67.0	65.8
67.5°	153.9	151.6	142.2	126.9	108.1	88.1	74.0	64.6	61.1	59.9	58.8
70°	118.7	118.7	111.6	101.0	87.0	72.9	62.3	56.4	54.0	52.9	51.7
72.5°	84.6	84.6	81.1	75.2	65.8	57.6	50.5	47.0	45.8	44.6	44.6
75°	56.4	56.4	55.2	52.9	48.2	43.5	40.0	38.8	37.6	37.6	36.4
77.5°	38.8	37.6	37.6	36.4	35.2	32.9	31.7	30.6	30.6	29.4	29.4
80°	27.0	25.8	25.8	25.8	24.7	24.7	23.5	23.5	22.3	22.3	22.3
82.5°	18.8	18.8	17.6	17.6	17.6	16.4	16.4	16.4	16.4	15.3	15.3
85°	11.8	11.8	11.8	10.6	10.6	10.6	10.6	9.4	9.4	9.4	9.4
87.5°	5.9	5.9	4.7	4.7	4.7	4.7	4.7	4.7	3.5	3.5	3.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5	634.5
2.5°	632.2	632.2	632.2	632.2	632.2	632.2	632.2	632.2	632.2	632.2	632.2
5°	626.3	625.1	626.3	626.3	626.3	626.3	626.3	626.3	626.3	626.3	626.3
7.5°	623.9	623.9	623.9	623.9	623.9	623.9	623.9	623.9	623.9	623.9	623.9
10°	621.6	621.6	621.6	621.6	622.8	622.8	621.6	621.6	622.8	621.6	621.6
12.5°	614.5	614.5	614.5	614.5	614.5	614.5	614.5	613.4	614.5	614.5	613.4
15°	605.1	605.1	605.1	605.1	605.1	605.1	605.1	604.0	604.0	604.0	604.0
17.5°	596.9	596.9	595.7	595.7	595.7	595.7	595.7	594.6	595.7	594.6	594.6
20°	586.3	585.2	585.2	584.0	584.0	584.0	584.0	584.0	584.0	582.8	582.8
22.5°	571.1	571.1	569.9	568.7	568.7	568.7	568.7	567.5	567.5	567.5	567.5
25°	553.4	553.4	552.2	551.1	551.1	549.9	549.9	548.7	548.7	548.7	548.7
27.5°	534.6	533.4	533.4	532.3	531.1	531.1	529.9	528.8	528.8	528.8	528.8
30°	515.8	513.5	512.3	511.1	510.0	510.0	508.8	507.6	507.6	507.6	507.6
32.5°	492.3	490.0	487.6	486.4	485.3	484.1	484.1	482.9	482.9	482.9	482.9
35°	464.1	460.6	458.2	455.9	454.7	453.6	453.6	452.4	452.4	452.4	451.2
37.5°	431.2	426.5	423.0	420.6	418.3	418.3	417.1	417.1	417.1	416.0	416.0
40°	393.6	386.6	381.9	378.4	376.0	376.0	376.0	374.8	374.8	373.7	373.7
42.5°	350.2	339.6	332.5	329.0	326.7	326.7	325.5	325.5	325.5	325.5	325.5
45°	302.0	289.0	280.8	277.3	275.0	273.8	273.8	272.6	272.6	272.6	272.6
47.5°	251.4	237.4	229.1	224.4	223.2	222.1	220.9	220.9	220.9	219.7	219.7
50°	200.9	189.2	181.0	176.2	175.1	173.9	172.7	172.7	172.7	172.7	171.6
52.5°	156.3	145.7	138.6	136.3	134.0	134.0	132.8	132.8	132.8	131.6	131.6
55°	119.8	112.8	108.1	105.8	104.6	103.4	103.4	103.4	103.4	103.4	102.2
57.5°	95.2	90.5	88.1	87.0	87.0	85.8	85.8	85.8	85.8	84.6	84.6
60°	81.1	78.7	77.6	77.6	77.6	76.4	76.4	76.4	76.4	75.2	75.2
62.5°	71.7	71.7	70.5	70.5	70.5	70.5	69.3	69.3	69.3	69.3	68.2
65°	64.6	64.6	64.6	64.6	64.6	63.4	63.4	63.4	62.3	62.3	62.3
67.5°	58.8	58.8	57.6	57.6	57.6	57.6	56.4	56.4	56.4	56.4	55.2
70°	51.7	51.7	51.7	50.5	50.5	50.5	49.4	49.4	49.4	48.2	48.2
72.5°	44.6	43.5	43.5	43.5	42.3	42.3	42.3	41.1	41.1	41.1	41.1
75°	36.4	36.4	35.2	35.2	35.2	35.2	34.1	34.1	34.1	34.1	34.1
77.5°	29.4	28.2	28.2	28.2	27.0	27.0	27.0	27.0	25.8	25.8	25.8
80°	22.3	21.2	21.2	21.2	20.0	20.0	20.0	20.0	20.0	18.8	18.8
82.5°	15.3	14.1	14.1	14.1	14.1	12.9	12.9	12.9	12.9	12.9	12.9
85°	9.4	8.2	8.2	8.2	8.2	8.2	7.0	7.0	7.0	7.0	7.0
87.5°	3.5	3.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P85571

CATALOG NUMBER: ML712835TUNVD010-495PWW06-H750ICAT

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°
0°	634.5	634.5	634.5	634.5
2.5°	632.2	632.2	633.3	632.2
5°	626.3	626.3	626.3	626.3
7.5°	623.9	623.9	623.9	623.9
10°	621.6	621.6	621.6	621.6
12.5°	614.5	613.4	613.4	613.4
15°	604.0	604.0	604.0	604.0
17.5°	594.6	594.6	594.6	594.6
20°	582.8	582.8	582.8	582.8
22.5°	567.5	567.5	567.5	566.4
25°	548.7	548.7	548.7	548.7
27.5°	528.8	528.8	528.8	527.6
30°	507.6	507.6	506.4	506.4
32.5°	481.8	481.8	481.8	481.8
35°	452.4	451.2	451.2	451.2
37.5°	416.0	416.0	416.0	416.0
40°	373.7	374.8	373.7	373.7
42.5°	324.3	324.3	324.3	324.3
45°	272.6	272.6	271.4	272.6
47.5°	219.7	219.7	219.7	219.7
50°	171.6	171.6	171.6	171.6
52.5°	131.6	131.6	131.6	131.6
55°	102.2	102.2	102.2	102.2
57.5°	84.6	84.6	84.6	84.6
60°	75.2	75.2	75.2	75.2
62.5°	68.2	68.2	68.2	68.2
65°	62.3	62.3	62.3	62.3
67.5°	55.2	55.2	55.2	55.2
70°	48.2	48.2	48.2	48.2
72.5°	41.1	41.1	40.0	41.1
75°	32.9	32.9	32.9	32.9
77.5°	25.8	25.8	25.8	25.8
80°	18.8	18.8	18.8	18.8
82.5°	12.9	12.9	12.9	12.9
85°	7.0	7.0	7.0	7.0
87.5°	2.4	2.4	2.4	2.4
90°	0.0	0.0	0.0	0.0

(END OF REPORT)