

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P243411

Luminaire Tested: **S123RDR-H775D935-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243411
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-64)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDR-H775D935-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2363.2 lumens
Efficiency: N/A
Efficacy: 100.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

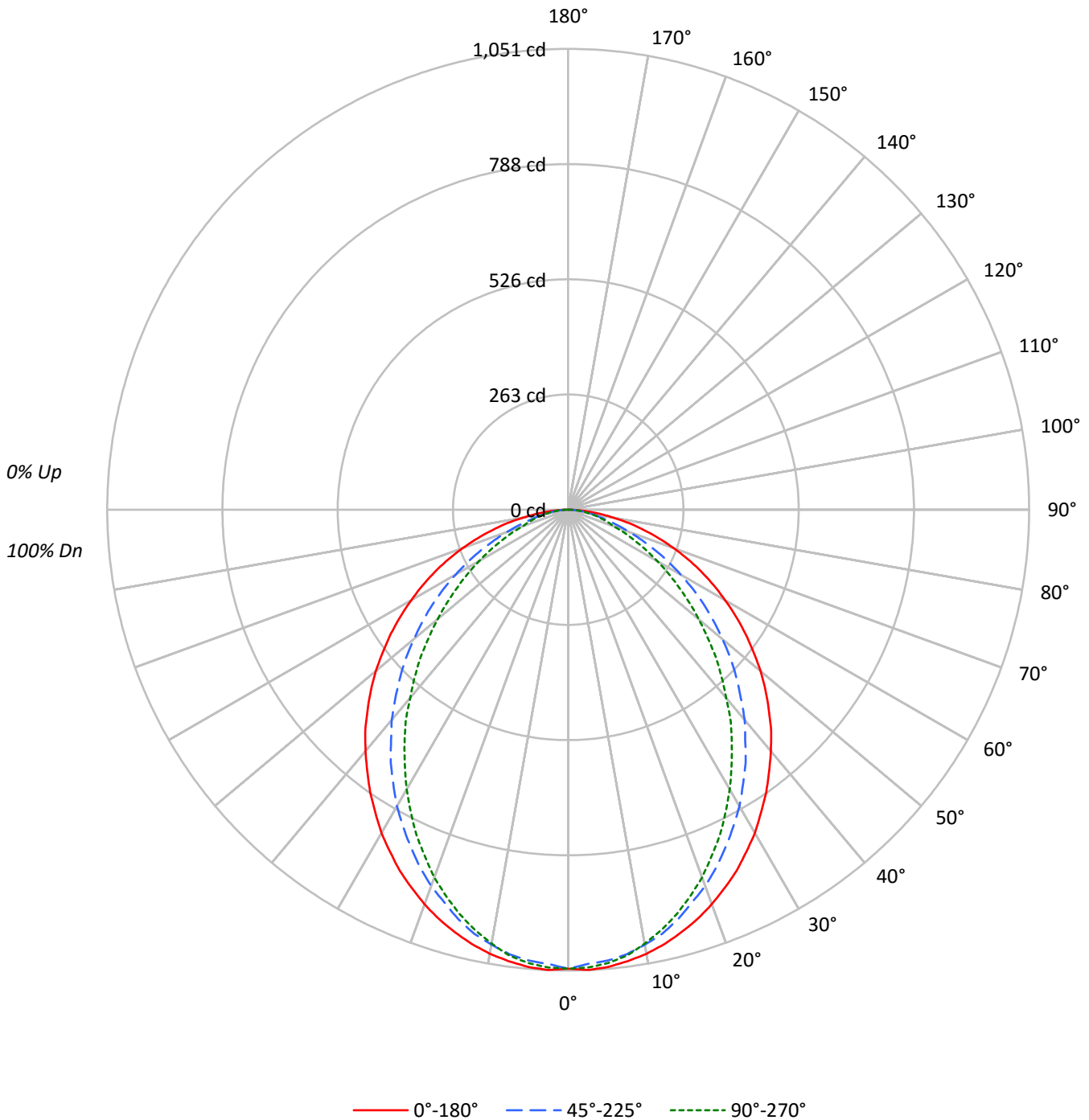
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86					86			
2	101	93	87	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73					73			
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	62					62			
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54					54			
5	78	66	58	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47					47			
6	73	60	51	45	71	59	51	45	57	50	45	56	49	44	54	48	44	42					42			
7	67	55	46	40	66	54	46	40	52	45	40	51	44	40	49	44	39	37					37			
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34					34			
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30					30			
10	55	43	35	30	54	42	35	30	41	34	30	40	34	30	39	34	29	28					28			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12687	12687	12687
5°	12736	12559	12627
10°	12655	12398	12369
15°	12519	12136	11984
20°	12350	11779	11510
25°	12149	11353	10946
30°	11915	10926	10307
35°	11645	10432	9624
40°	11372	9896	8866
45°	11093	9301	8158
50°	10794	8655	7337
55°	10431	7984	6507
60°	10017	7190	5670
65°	9614	6296	4841
70°	9058	5270	3874
75°	8360	4177	3690
80°	7294	3707	3365
85°	6147	3240	3129



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.5	4.2
10°-20°	274.1	11.6
20°-30°	394.6	16.7
30°-40°	444.5	18.8
40°-50°	424.7	18.0
50°-60°	347.2	14.7
60°-70°	233.2	9.9
70°-80°	116.3	4.9
80°-90°	30.1	1.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	767.2	32.5
0°-40°	1211.7	51.3
0°-60°	1983.7	83.9
0°-90°	2363.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2363.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1047	1047	1047	1047	1047	
5°	1047	1043	1032	1040	1038	99
15°	998	990	967	962	955	281
25°	908	888	849	830	818	418
35°	787	756	705	666	650	492
45°	647	609	543	495	476	499
55°	494	449	378	326	308	441
65°	335	289	220	179	169	332
75°	178	136	89	80	79	189
85°	44	26	23	22	22	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7
2.5°	1050.7	1048.3	1045.1	1045.9	1046.7	1047.5	1047.5	1046.7	1044.3	1041.0	1037.0
5°	1046.7	1044.3	1041.0	1041.0	1042.7	1042.7	1042.7	1041.9	1039.4	1036.2	1032.2
7.5°	1038.6	1037.0	1033.0	1033.8	1034.6	1034.6	1034.6	1033.8	1030.6	1026.6	1022.6
10°	1028.2	1025.8	1022.6	1022.6	1023.4	1023.4	1023.4	1021.8	1017.7	1012.9	1007.3
12.5°	1014.5	1012.1	1008.9	1008.9	1008.9	1008.9	1008.9	1006.5	1000.0	995.2	990.4
15°	997.6	995.2	992.0	992.0	991.2	990.4	988.8	984.8	979.1	973.5	967.1
17.5°	979.1	975.9	971.9	971.1	970.3	969.5	967.1	964.7	956.6	948.6	939.0
20°	957.4	954.2	950.2	949.4	947.0	944.6	943.0	938.1	929.3	919.7	913.2
22.5°	933.3	930.1	926.1	924.5	919.7	918.1	915.6	908.4	898.8	889.9	882.7
25°	908.4	904.4	899.6	897.1	891.5	888.3	887.5	877.1	867.4	857.8	848.9
27.5°	879.5	876.2	872.2	867.4	861.8	857.8	856.2	846.5	834.4	823.2	815.2
30°	851.3	846.5	842.5	836.9	828.8	824.8	821.6	811.9	801.5	787.8	780.6
32.5°	818.4	815.2	810.3	804.7	796.7	793.4	788.6	776.6	762.9	753.3	742.0
35°	787.0	783.8	776.6	770.9	759.7	756.5	751.6	741.2	725.9	714.7	705.0
37.5°	752.4	748.4	742.8	734.8	725.1	721.1	714.7	704.2	686.5	675.3	663.2
40°	718.7	713.1	706.6	697.8	688.1	684.1	678.5	663.2	648.7	635.9	625.4
42.5°	684.9	678.5	670.5	662.4	652.0	646.3	639.9	625.4	609.4	597.3	582.8
45°	647.1	642.3	634.3	624.6	612.6	608.6	601.3	586.0	570.0	557.1	542.6
47.5°	610.2	604.5	596.5	586.8	574.8	569.2	561.9	546.7	530.6	514.5	501.6
50°	572.4	566.7	557.1	547.5	536.2	529.0	522.5	507.3	489.6	475.1	459.0
52.5°	532.2	527.4	519.3	509.7	495.2	489.6	483.1	466.3	449.4	432.5	418.0
55°	493.6	490.4	480.7	471.1	455.8	449.4	442.9	425.3	408.4	391.5	377.8
57.5°	453.4	451.0	441.3	430.1	416.4	410.0	401.9	384.3	368.2	351.3	336.8
60°	413.2	410.8	401.1	389.9	377.0	369.0	360.1	346.5	328.0	312.7	296.6
62.5°	374.6	371.4	363.4	351.3	336.8	328.8	320.8	304.7	287.8	271.7	257.2
65°	335.2	331.2	321.6	309.5	295.8	288.6	280.6	265.3	248.4	233.1	219.5
67.5°	295.8	291.8	281.4	271.7	255.6	248.4	241.2	225.9	209.8	194.5	181.7
70°	255.6	251.6	243.6	230.7	217.1	209.8	202.6	186.5	172.0	160.8	148.7
72.5°	216.2	213.0	205.0	192.9	180.1	172.8	164.8	151.1	138.3	126.2	117.4
75°	178.5	173.6	166.4	155.2	142.3	135.9	130.2	116.6	104.5	96.5	89.2
77.5°	142.3	136.7	128.6	119.8	107.7	101.3	95.7	84.4	76.4	70.7	69.1
80°	104.5	103.7	95.7	86.0	75.6	70.7	65.1	57.9	55.5	54.7	53.1
82.5°	73.2	69.9	63.5	54.7	46.6	43.4	41.8	40.2	38.6	38.6	37.0
85°	44.2	41.0	35.4	28.1	26.5	25.7	24.9	24.9	24.1	23.3	23.3
87.5°	19.3	16.1	12.1	11.3	10.5	10.5	11.3	11.3	11.3	10.5	10.5
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7	1046.7
2.5°	1038.6	1042.7	1045.1	1045.9	1045.9	1045.9	1046.7	1046.7	1045.9	1045.1
5°	1033.0	1037.0	1038.6	1040.2	1040.2	1040.2	1040.2	1040.2	1039.4	1037.8
7.5°	1024.2	1026.6	1029.0	1028.2	1028.2	1027.4	1026.6	1027.4	1025.8	1025.8
10°	1008.1	1010.5	1012.1	1009.7	1009.7	1010.5	1010.5	1009.7	1007.3	1004.9
12.5°	989.6	992.0	989.6	990.4	988.8	987.2	986.4	985.6	983.2	981.6
15°	965.5	965.5	963.9	963.9	961.5	958.2	957.4	958.2	955.0	955.0
17.5°	939.0	937.3	934.9	933.3	932.5	932.5	929.3	929.3	925.3	924.5
20°	910.0	908.4	906.0	902.0	900.4	901.2	898.0	895.5	893.1	892.3
22.5°	879.5	875.4	873.0	869.0	865.8	865.8	863.4	859.4	857.0	854.5
25°	844.9	840.9	836.1	832.8	830.4	826.4	824.8	821.6	819.2	818.4
27.5°	809.5	803.1	796.7	793.4	791.8	787.0	784.6	783.0	778.2	777.4
30°	771.7	766.9	758.9	753.3	749.2	750.0	744.4	741.2	738.8	736.4
32.5°	735.6	727.5	719.5	712.3	707.4	706.6	701.0	697.8	695.4	693.0
35°	694.6	686.5	676.9	670.5	665.6	663.2	657.6	656.0	652.0	650.4
37.5°	653.6	644.7	635.1	627.0	623.8	618.2	615.8	611.8	608.6	608.6
40°	613.4	602.9	593.3	583.6	579.6	576.4	570.0	566.7	562.7	560.3
42.5°	571.6	559.5	550.7	541.8	536.2	533.8	526.6	522.5	518.5	517.7
45°	529.8	517.7	506.5	497.6	495.2	490.4	483.1	477.5	476.7	475.9
47.5°	487.2	475.1	464.7	455.0	451.8	446.2	441.3	437.3	432.5	430.1
50°	446.2	434.1	422.9	412.4	408.4	403.6	398.7	393.1	391.5	389.1
52.5°	405.2	391.5	379.4	369.8	366.6	362.6	356.9	352.1	349.7	348.1
55°	363.4	349.7	339.2	329.6	325.6	323.2	316.7	312.7	309.5	307.9
57.5°	322.4	308.7	299.0	291.8	286.2	283.8	277.3	273.3	271.7	270.9
60°	283.8	270.9	260.5	253.2	248.4	246.0	241.2	237.1	234.7	233.9
62.5°	245.2	233.9	224.3	217.1	213.8	210.6	206.6	203.4	201.0	201.0
65°	208.2	197.0	188.1	182.5	179.3	177.7	172.8	171.2	168.8	168.8
67.5°	172.0	164.0	157.6	150.3	147.9	147.9	143.1	141.5	139.9	139.9
70°	140.7	133.4	126.2	122.2	119.8	119.0	115.0	112.5	110.9	109.3
72.5°	110.1	103.7	97.3	96.5	96.5	95.7	95.7	94.1	94.1	94.9
75°	84.4	82.8	81.2	81.2	80.4	79.6	79.6	78.8	78.8	78.8
77.5°	67.5	66.7	65.9	65.1	65.1	64.3	63.5	63.5	63.5	63.5
80°	51.4	50.6	50.6	49.8	49.0	49.8	49.0	49.0	48.2	48.2
82.5°	36.2	36.2	36.2	35.4	35.4	35.4	35.4	34.6	34.6	35.4
85°	22.5	22.5	22.5	22.5	21.7	22.5	21.7	21.7	21.7	22.5
87.5°	9.6	10.5	9.6	10.5	10.5	9.6	9.6	9.6	9.6	9.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)