

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: P242523

Luminaire Tested: **S123DR-S1000D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242523  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DR-S1000D940-X4F0-XX-UDD-D-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN DROP DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3508.3 lumens  
Efficiency: N/A  
Efficacy: 100.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.23' x L: 3.88' x H: 0.08')  
CIE Type: Direct

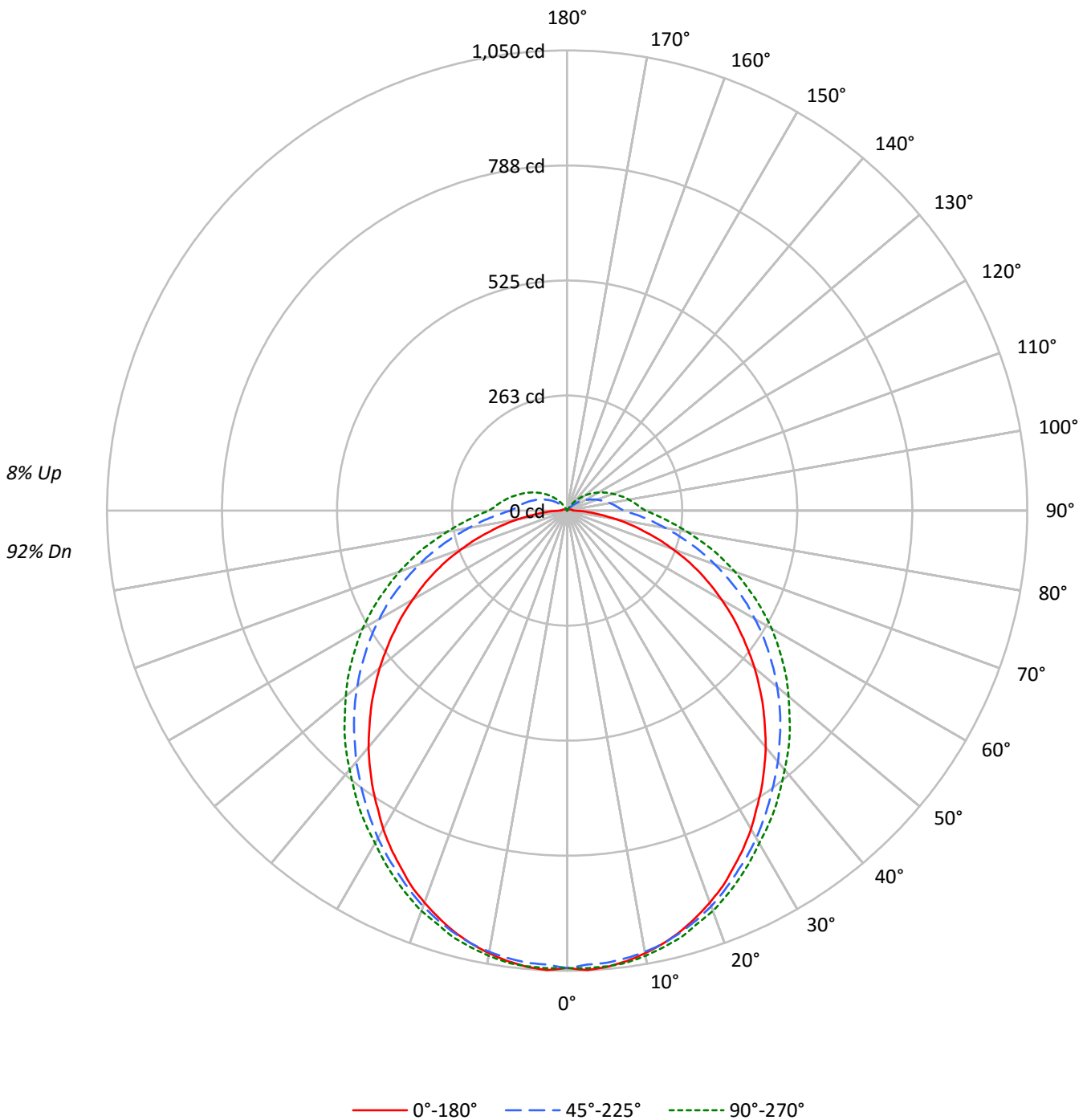
Input Watts (W): 34.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	92
1	105	100	95	90	102	97	92	88	91	87	84	85	82	80	80	78	76	73
2	95	86	79	72	92	83	77	71	79	73	68	74	69	65	70	66	63	60
3	86	75	67	60	83	73	65	59	69	62	56	65	59	54	61	56	52	50
4	79	66	57	50	76	64	56	49	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	42	54	47	41	52	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	38	32	45	37	32	42	36	31	40	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	32	26	22	20

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

	0°	45°	90°
0°	12653	12653	12653
5°	12691	12311	12310
10°	12577	12006	11930
15°	12415	11664	11520
20°	12182	11277	11076
25°	11895	10836	10611
30°	11602	10439	10142
35°	11273	10019	9763
40°	10958	9637	9361
45°	10611	9269	9035
50°	10265	8904	8676
55°	9887	8530	8351
60°	9515	8149	8017
65°	9135	7742	7624
70°	8563	7284	7217
75°	7838	6761	6801
80°	7005	6238	6326
85°	6218	5843	6012



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.0	2.8
10°-20°	282.3	8.0
20°-30°	422.1	12.0
30°-40°	504.0	14.4
40°-50°	527.4	15.0
50°-60°	494.9	14.1
60°-70°	413.4	11.8
70°-80°	295.6	8.4
80°-90°	175.9	5.0
90°-100°	110.5	3.2
100°-110°	81.2	2.3
110°-120°	54.2	1.5
120°-130°	31.0	0.9
130°-140°	13.9	0.4
140°-150°	2.9	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	803.5	22.9
0°-40°	1307.5	37.3
0°-60°	2329.8	66.4
0°-90°	3214.6	91.6
90°-120°	246.0	7.0
90°-150°	293.7	8.4
90°-180°	294.0	8.4
0°-180°	3508.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1044	1044	1044	1044	1044	
5°	1045	1043	1036	1045	1044	99
15°	995	998	997	1009	1008	280
25°	898	910	913	928	928	414
35°	773	792	806	823	828	484
45°	632	660	688	710	719	488
55°	482	520	561	591	600	432
65°	333	378	428	462	473	329
75°	181	234	291	329	342	193
85°	56	113	173	212	223	57
90°	15	70	128	167	178	11
95°	12	57	113	148	159	10
105°	9	36	85	117	127	9
115°	6	19	60	88	97	6
125°	3	3	36	60	68	3
135°	2	1	14	34	40	2
145°	1	0	0	9	14	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1043.9	1043.9	1043.9	1043.9	1043.9
2.5°	1049.6	1046.2	1037.1	1046.2	1045.0
5°	1045.0	1042.8	1035.9	1045.0	1043.9
7.5°	1037.1	1037.1	1030.3	1041.6	1040.5
10°	1025.7	1028.0	1022.3	1033.7	1031.4
12.5°	1012.1	1015.5	1012.1	1022.3	1020.0
15°	995.0	998.4	997.3	1008.7	1007.5
17.5°	974.5	981.4	980.2	990.5	988.2
20°	951.8	958.6	960.9	971.1	972.3
22.5°	927.9	934.7	938.1	951.8	950.7
25°	898.3	909.7	913.1	927.9	927.9
27.5°	869.9	882.4	889.3	901.8	902.9
30°	839.2	854.0	863.1	876.7	876.7
32.5°	805.1	822.2	834.7	849.5	852.9
35°	773.3	791.5	806.2	823.3	827.8
37.5°	739.1	759.6	776.7	796.0	799.4
40°	705.0	725.5	748.2	767.6	772.1
42.5°	667.5	693.7	717.5	739.1	746.0
45°	632.3	659.5	688.0	709.6	718.7
47.5°	594.7	625.4	657.3	681.2	688.0
50°	558.3	590.2	625.4	651.6	659.5
52.5°	519.7	553.8	593.6	620.9	631.1
55°	482.2	519.7	560.6	591.3	600.4
57.5°	445.8	484.4	528.8	559.5	569.7
60°	407.1	448.0	494.7	526.5	539.0
62.5°	370.7	412.8	462.8	494.7	506.0
65°	333.2	377.5	427.6	461.7	473.1
67.5°	295.7	342.3	392.3	429.8	438.9
70°	255.9	304.8	359.3	395.7	407.1
72.5°	219.5	268.4	325.2	362.8	374.1
75°	180.8	234.3	291.1	328.6	342.3
77.5°	147.8	201.3	258.1	297.9	308.2
80°	112.6	168.3	227.4	266.1	277.5
82.5°	81.9	138.7	199.0	237.7	249.0
85°	55.7	112.6	172.8	211.5	222.9
87.5°	34.1	91.0	149.0	187.6	199.0
90°	14.8	70.5	128.5	167.2	178.5
92.5°	13.6	62.5	119.4	156.9	167.2
95°	12.5	56.9	112.6	147.8	159.2
97.5°	11.4	52.3	105.8	139.9	151.2
100°	10.2	46.6	98.9	131.9	143.3
102.5°	9.1	40.9	92.1	123.9	135.3
105°	9.1	36.4	85.3	117.1	127.4
107.5°	8.0	31.8	78.5	109.2	119.4
110°	6.8	27.3	72.8	102.3	111.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	6.8	22.7	66.0	94.4	104.6
115°	5.7	19.3	60.3	87.6	96.7
117.5°	5.7	14.8	53.4	80.7	89.8
120°	4.5	10.2	47.8	73.9	81.9
122.5°	4.5	6.8	42.1	67.1	75.1
125°	3.4	3.4	36.4	60.3	68.2
127.5°	3.4	2.3	30.7	53.4	61.4
130°	3.4	2.3	25.0	46.6	53.4
132.5°	2.3	2.3	19.3	39.8	47.8
135°	2.3	1.1	13.6	34.1	39.8
137.5°	2.3	1.1	9.1	27.3	33.0
140°	1.1	1.1	4.5	21.6	27.3
142.5°	1.1	0.0	0.0	14.8	20.5
145°	1.1	0.0	0.0	9.1	13.6
147.5°	0.0	0.0	0.0	3.4	8.0
150°	0.0	0.0	0.0	0.0	2.3
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)