

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: P243038

Luminaire Tested: **S121DR-H685D940-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243038
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-52)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H685D940-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2304.7 lumens
Efficiency: N/A
Efficacy: 97.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.43
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

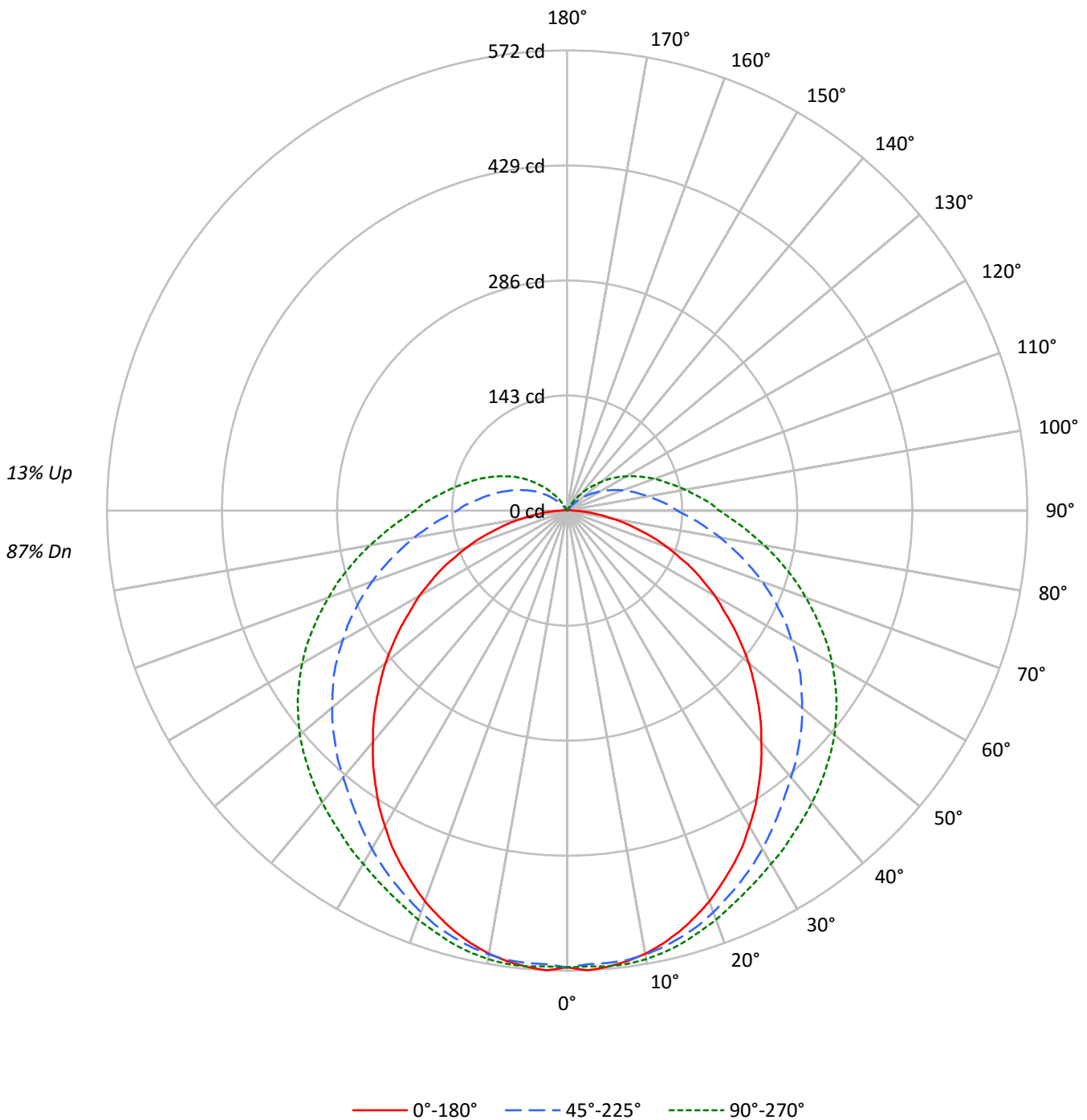
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	116	116	116	116	112	112	112	112	104	104	104	97	97	97	90	90	90	87
1	103	97	92	87	99	94	89	84	87	83	79	81	78	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	69	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	50	56	51	47	44
4	76	64	54	47	73	61	53	46	57	50	44	53	47	42	49	44	40	37
5	70	56	47	40	67	54	46	39	51	43	37	47	41	36	44	39	34	32
6	65	51	41	34	62	49	40	34	46	38	32	43	36	31	40	34	30	27
7	60	46	37	30	57	44	36	30	41	34	29	39	32	27	36	31	26	24
8	55	42	33	27	53	40	32	26	38	31	25	36	29	24	33	28	23	21
9	52	38	30	24	50	37	29	24	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	21	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16824	16824	16824
5°	16907	15895	15692
10°	16770	15139	14724
15°	16506	14355	13780
20°	16175	13570	12893
25°	15767	12811	12104
30°	15305	12107	11463
35°	14806	11437	10934
40°	14266	10872	10495
45°	13762	10401	10085
50°	13245	9946	9710
55°	12645	9522	9305
60°	12129	9028	8879
65°	11547	8559	8415
70°	10757	8076	7941
75°	9792	7564	7483
80°	8608	7088	7030
85°	7504	6638	6620



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.0	2.3
10°-20°	155.2	6.7
20°-30°	234.7	10.2
30°-40°	286.9	12.4
40°-50°	311.4	13.5
50°-60°	307.3	13.3
60°-70°	275.3	11.9
70°-80°	221.5	9.6
80°-90°	160.1	6.9
90°-100°	114.6	5.0
100°-110°	81.8	3.6
110°-120°	54.2	2.4
120°-130°	30.8	1.3
130°-140°	13.8	0.6
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°	444.0	19.3
0°-40°	730.8	31.7
0°-60°	1349.6	58.6
0°-90°	2006.5	87.1
90°-120°	250.6	10.9
90°-150°	298.1	12.9
90°-180°	298.0	12.9
0°-180°	2304.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	568	568	568	568	568	
5°	570	568	564	570	569	54
15°	541	547	549	556	556	152
25°	487	500	510	521	524	224
35°	416	437	459	483	490	260
45°	336	367	408	443	455	259
55°	252	295	354	395	409	226
65°	172	226	291	336	349	170
75°	92	156	225	269	282	99
85°	28	93	163	205	217	29
90°	7	70	136	177	189	5
95°	5	56	119	157	169	4
105°	2	33	87	121	131	3
115°	2	16	60	91	100	1
125°	1	2	37	62	71	0
135°	0	0	14	35	42	0
145°	0	0	0	9	15	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°	567.8	567.8	567.8	567.8	567.8
2.5°	572.0	568.6	564.5	568.6	567.0
5°	569.5	567.8	564.5	570.3	568.6
7.5°	565.3	565.3	563.7	569.5	568.6
10°	559.5	561.2	560.3	567.0	566.1
12.5°	551.2	554.5	555.3	562.8	562.0
15°	541.2	547.0	548.7	556.2	556.2
17.5°	529.5	537.0	541.2	548.7	548.7
20°	517.0	525.4	531.2	540.3	541.2
22.5°	502.0	513.7	520.4	531.2	532.0
25°	487.1	499.5	509.5	521.2	523.7
27.5°	471.2	485.4	497.9	511.2	515.4
30°	452.9	468.7	485.4	501.2	507.0
32.5°	435.4	453.8	472.1	492.1	499.5
35°	415.5	437.1	458.7	482.9	490.4
37.5°	396.3	419.6	445.4	472.9	482.1
40°	375.5	402.1	432.9	463.7	473.7
42.5°	356.3	383.8	421.3	452.9	464.6
45°	335.5	367.2	408.0	442.9	454.6
47.5°	314.7	348.8	395.5	431.3	444.6
50°	294.7	330.5	381.3	420.4	433.8
52.5°	273.1	313.9	367.2	407.1	421.3
55°	252.3	294.7	353.8	394.6	408.8
57.5°	230.6	278.9	338.0	381.3	394.6
60°	212.3	260.6	322.2	366.3	380.5
62.5°	191.5	243.1	307.2	350.5	365.5
65°	172.3	225.6	290.6	335.5	348.8
67.5°	150.7	208.1	274.7	318.9	332.2
70°	131.5	190.7	258.1	302.2	315.5
72.5°	112.4	174.0	241.4	286.4	299.7
75°	92.4	155.7	224.8	268.9	282.2
77.5°	74.9	139.0	208.1	252.3	265.6
80°	56.6	122.4	193.2	236.5	248.9
82.5°	41.6	107.4	177.3	220.6	232.3
85°	27.5	93.2	163.2	204.8	217.3
87.5°	15.8	80.8	149.0	190.7	202.3
90°	6.7	69.9	136.5	177.3	189.0
92.5°	5.0	63.3	129.0	168.2	179.8
95°	5.0	55.8	119.1	157.4	169.0
97.5°	4.2	49.1	109.9	147.4	158.2
100°	3.3	43.3	102.4	138.2	149.0
102.5°	3.3	38.3	94.1	129.0	139.9
105°	2.5	33.3	87.4	120.7	130.7
107.5°	2.5	28.3	79.9	113.2	123.2
110°	1.7	24.1	73.3	105.7	115.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.7	20.0	66.6	98.2	107.4
115°	1.7	15.8	59.9	90.8	99.9
117.5°	0.8	11.7	54.1	83.3	92.4
120°	0.8	8.3	48.3	75.8	84.9
122.5°	0.8	4.2	41.6	69.1	78.3
125°	0.8	1.7	36.6	62.4	70.8
127.5°	0.0	0.0	30.8	54.9	63.3
130°	0.0	0.0	25.0	48.3	55.8
132.5°	0.0	0.0	20.0	41.6	48.3
135°	0.0	0.0	14.2	35.0	41.6
137.5°	0.0	0.0	9.2	28.3	35.0
140°	0.0	0.0	4.2	21.6	27.5
142.5°	0.0	0.0	0.8	15.8	20.8
145°	0.0	0.0	0.0	9.2	15.0
147.5°	0.0	0.0	0.0	3.3	8.3
150°	0.0	0.0	0.0	0.0	2.5
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)