

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: P243028

Luminaire Tested: **S121DR-H685D930-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P243028
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-H685D930-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2107.3 lumens
Efficiency: N/A
Efficacy: 89.3 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

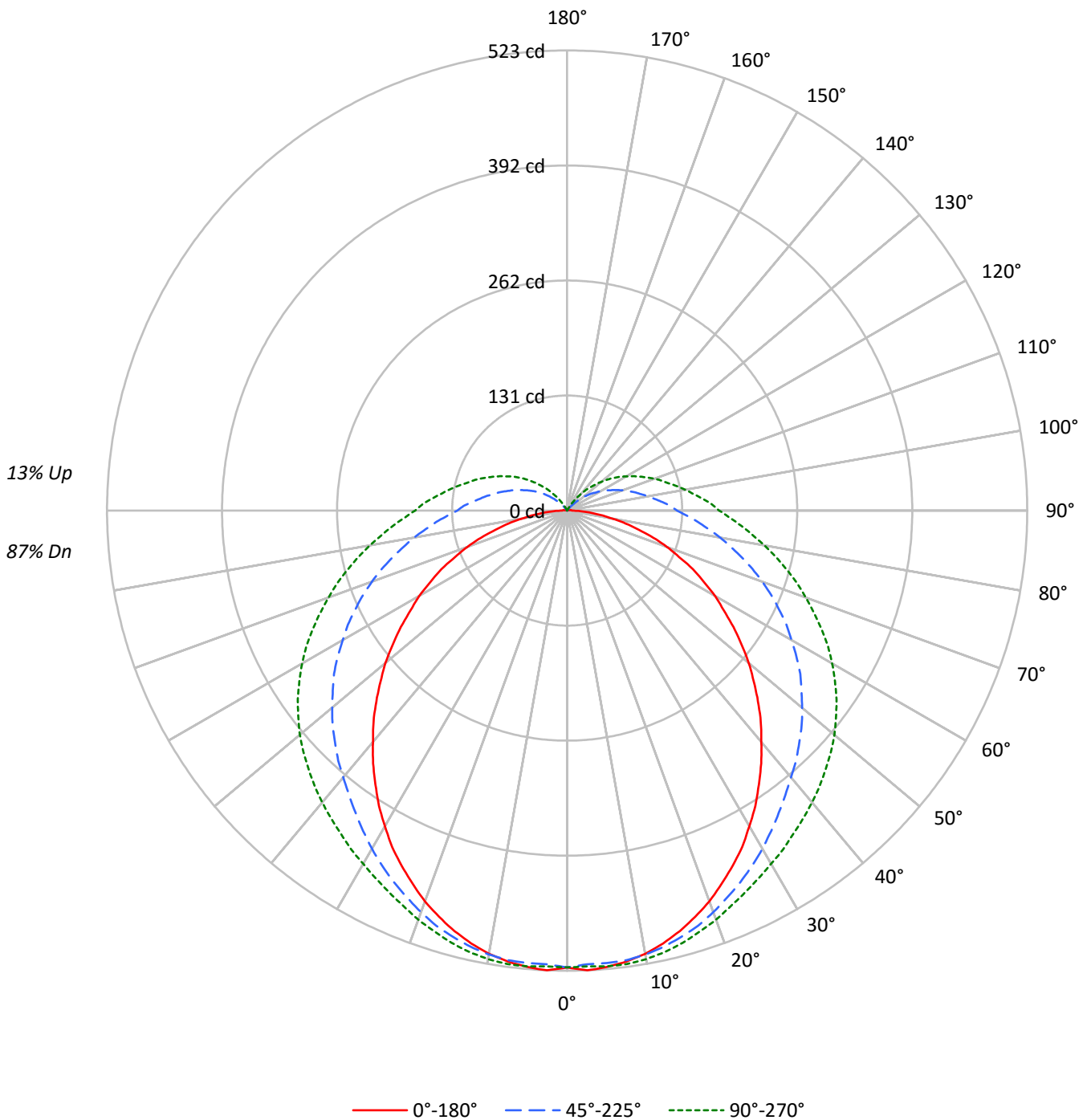
Input Watts (W): 23.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	15384	15384	15384
5°	15458	14532	14348
10°	15331	13842	13463
15°	15091	13123	12598
20°	14789	12408	11788
25°	14414	11715	11066
30°	13994	11070	10482
35°	13538	10457	9997
40°	13043	9940	9595
45°	12585	9509	9220
50°	12112	9093	8878
55°	11562	8707	8509
60°	11089	8254	8118
65°	10562	7825	7696
70°	9840	7385	7261
75°	8955	6914	6844
80°	7878	6479	6429
85°	6849	6069	6053



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.4	2.3
10°-20°	141.9	6.7
20°-30°	214.6	10.2
30°-40°	262.3	12.4
40°-50°	284.8	13.5
50°-60°	281.0	13.3
60°-70°	251.7	11.9
70°-80°	202.5	9.6
80°-90°	146.4	6.9
90°-100°	104.8	5.0
100°-110°	74.8	3.6
110°-120°	49.5	2.4
120°-130°	28.2	1.3
130°-140°	12.6	0.6
140°-150°	2.7	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	405.9	19.3
0°-40°	668.2	31.7
0°-60°	1234.0	58.6
0°-90°	1834.6	87.1
90°-120°	229.2	10.9
90°-150°	272.6	12.9
90°-180°	273.0	13.0
0°-180°	2107.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	519	519	519	519	519	
5°	521	519	516	521	520	49
15°	495	500	502	508	508	139
25°	445	457	466	476	479	205
35°	380	400	419	442	448	238
45°	307	336	373	405	416	237
55°	231	270	324	361	374	206
65°	158	206	266	307	319	155
75°	84	142	206	246	258	90
85°	25	85	149	187	199	26
90°	6	64	125	162	173	4
95°	5	51	109	144	154	3
105°	2	30	80	110	120	3
115°	2	14	55	83	91	1
125°	1	2	34	57	65	0
135°	0	0	13	32	38	0
145°	0	0	0	8	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°	519.2	519.2	519.2	519.2	519.2
2.5°	523.0	519.9	516.1	519.9	518.4
5°	520.7	519.2	516.1	521.4	519.9
7.5°	516.9	516.9	515.4	520.7	519.9
10°	511.5	513.1	512.3	518.4	517.6
12.5°	503.9	507.0	507.7	514.6	513.8
15°	494.8	500.1	501.6	508.5	508.5
17.5°	484.1	491.0	494.8	501.6	501.6
20°	472.7	480.3	485.7	494.0	494.8
22.5°	459.0	469.7	475.8	485.7	486.4
25°	445.3	456.7	465.9	476.5	478.8
27.5°	430.9	443.8	455.2	467.4	471.2
30°	414.1	428.6	443.8	458.3	463.6
32.5°	398.1	414.9	431.6	449.9	456.7
35°	379.9	399.6	419.4	441.5	448.4
37.5°	362.3	383.7	407.3	432.4	440.8
40°	343.3	367.7	395.8	424.0	433.1
42.5°	325.8	350.9	385.2	414.1	424.8
45°	306.8	335.7	373.0	405.0	415.6
47.5°	287.7	319.0	361.6	394.3	406.5
50°	269.5	302.2	348.6	384.4	396.6
52.5°	249.7	287.0	335.7	372.2	385.2
55°	230.7	269.5	323.5	360.8	373.8
57.5°	210.9	255.0	309.1	348.6	360.8
60°	194.1	238.3	294.6	334.9	347.9
62.5°	175.1	222.3	280.9	320.5	334.2
65°	157.6	206.3	265.7	306.8	319.0
67.5°	137.8	190.3	251.2	291.6	303.7
70°	120.3	174.3	236.0	276.3	288.5
72.5°	102.8	159.1	220.8	261.9	274.0
75°	84.5	142.3	205.5	245.9	258.1
77.5°	68.5	127.1	190.3	230.7	242.8
80°	51.8	111.9	176.6	216.2	227.6
82.5°	38.1	98.2	162.1	201.7	212.4
85°	25.1	85.3	149.2	187.3	198.7
87.5°	14.5	73.8	136.3	174.3	185.0
90°	6.1	63.9	124.8	162.1	172.8
92.5°	4.6	57.9	118.0	153.8	164.4
95°	4.6	51.0	108.9	143.9	154.5
97.5°	3.8	44.9	100.5	134.7	144.6
100°	3.0	39.6	93.6	126.4	136.3
102.5°	3.0	35.0	86.0	118.0	127.9
105°	2.3	30.4	79.9	110.4	119.5
107.5°	2.3	25.9	73.1	103.5	112.7
110°	1.5	22.1	67.0	96.7	105.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	1.5	18.3	60.9	89.8	98.2
115°	1.5	14.5	54.8	83.0	91.3
117.5°	0.8	10.7	49.5	76.1	84.5
120°	0.8	7.6	44.2	69.3	77.6
122.5°	0.8	3.8	38.1	63.2	71.6
125°	0.8	1.5	33.5	57.1	64.7
127.5°	0.0	0.0	28.2	50.2	57.9
130°	0.0	0.0	22.8	44.2	51.0
132.5°	0.0	0.0	18.3	38.1	44.2
135°	0.0	0.0	12.9	32.0	38.1
137.5°	0.0	0.0	8.4	25.9	32.0
140°	0.0	0.0	3.8	19.8	25.1
142.5°	0.0	0.0	0.8	14.5	19.0
145°	0.0	0.0	0.0	8.4	13.7
147.5°	0.0	0.0	0.0	3.0	7.6
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)