

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: P242149

Luminaire Tested: **S121DR-S685D927-X4F0-XX-UDD-D-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242149
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-13)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-S685D927-X4F0-XX-UDD-D-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN DROP DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2164.7 lumens
Efficiency: N/A
Efficacy: 82.3 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.09' x L: 3.88' x H: 0.08')
CIE Type: Semi-Direct

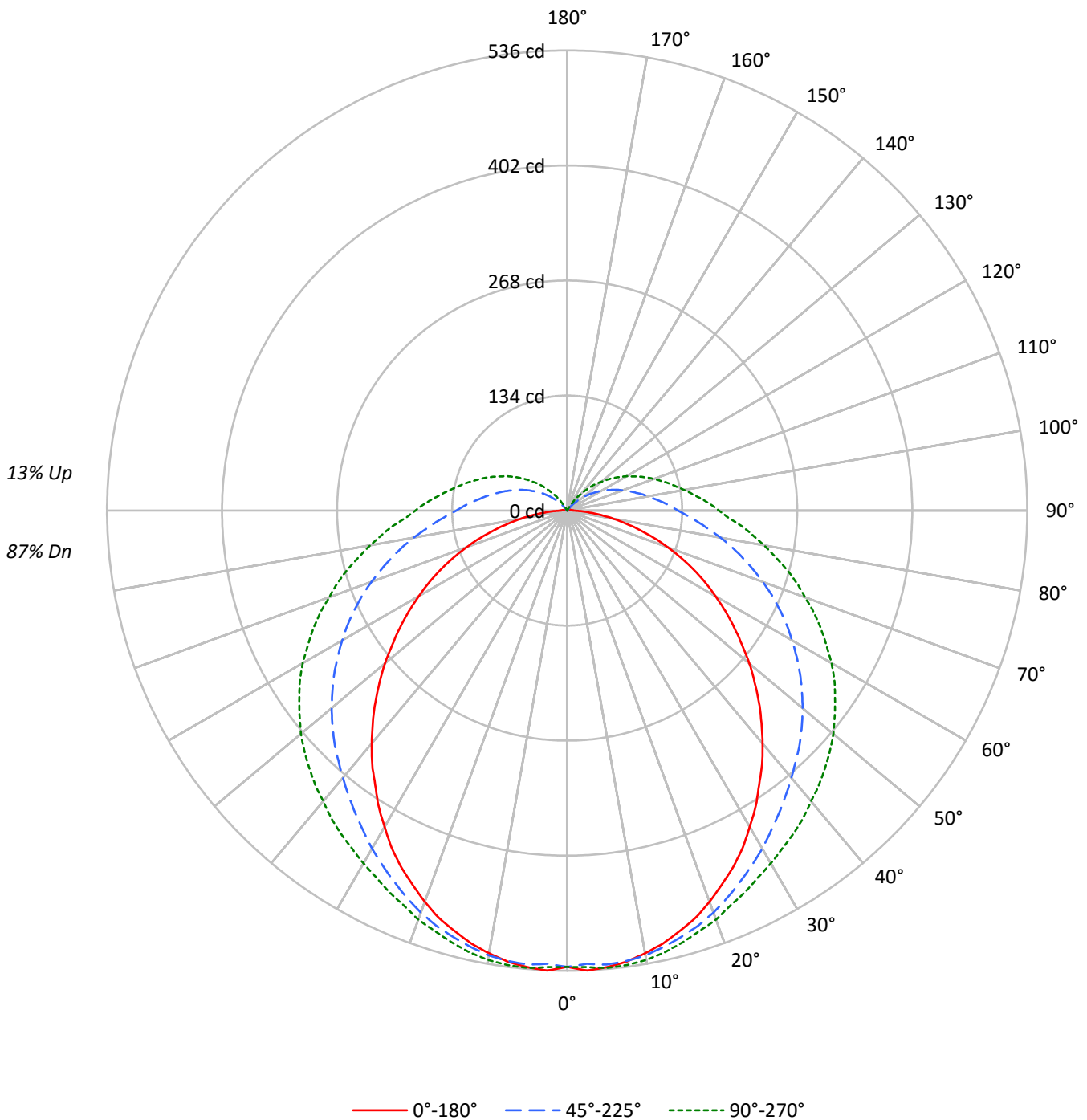
Input Watts (W): 26.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	77	75	75	72	70	67
2	93	83	75	69	89	80	73	67	74	68	63	69	64	60	64	60	57	54
3	84	72	63	56	80	70	61	55	65	58	52	60	54	49	56	51	47	44
4	76	63	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	28	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	23	35	28	23	33	26	22	31	25	21	19
10	48	35	27	22	47	34	26	21	32	25	20	30	24	20	29	23	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	15751	15751	15751
5°	15850	14946	14756
10°	15694	14212	13827
15°	15463	13450	12895
20°	15168	12730	12079
25°	14821	11992	11335
30°	14376	11342	10729
35°	13890	10726	10245
40°	13453	10206	9792
45°	12967	9774	9419
50°	12463	9341	9061
55°	11913	8911	8673
60°	11403	8479	8300
65°	10884	8049	7874
70°	10176	7585	7417
75°	9315	7116	7016
80°	8319	6655	6578
85°	7122	6219	6202



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.7	2.3
10°-20°	145.6	6.7
20°-30°	220.1	10.2
30°-40°	269.1	12.4
40°-50°	292.2	13.5
50°-60°	288.2	13.3
60°-70°	258.7	12.0
70°-80°	208.2	9.6
80°-90°	150.4	6.9
90°-100°	107.5	5.0
100°-110°	77.0	3.6
110°-120°	51.3	2.4
120°-130°	29.5	1.4
130°-140°	13.3	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°	416.4	19.2
0°-40°	685.5	31.7
0°-60°	1265.9	58.5
0°-90°	1883.2	87.0
90°-120°	235.8	10.9
90°-150°	281.5	13.0
90°-180°	282.0	13.0
0°-180°	2164.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	532	532	532	532	532	
5°	534	533	531	536	535	51
15°	507	514	514	521	520	143
25°	458	470	477	488	490	211
35°	390	411	430	452	460	244
45°	316	345	383	414	425	244
55°	238	279	331	369	381	213
65°	162	214	273	314	326	161
75°	88	147	212	252	265	93
85°	26	89	153	192	204	27
90°	7	66	129	166	177	5
95°	6	53	112	147	157	4
105°	3	32	82	113	123	4
115°	2	16	57	85	94	2
125°	2	2	35	59	66	1
135°	1	1	14	33	40	1
145°	0	0	0	10	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°	531.6	531.6	531.6	531.6	531.6
2.5°	536.3	533.9	528.4	533.9	532.3
5°	533.9	533.1	530.8	535.5	534.7
7.5°	530.0	531.6	529.2	535.5	533.9
10°	523.6	527.6	526.0	532.3	531.6
12.5°	516.5	521.3	520.5	527.6	526.8
15°	507.0	514.1	514.1	521.3	520.5
17.5°	497.5	504.6	507.0	514.9	513.3
20°	484.8	494.3	498.3	505.4	507.0
22.5°	471.3	483.2	488.0	496.7	497.5
25°	457.9	469.8	476.9	488.0	490.4
27.5°	442.8	456.3	465.8	478.5	481.6
30°	425.4	442.0	454.7	469.0	474.5
32.5°	408.8	427.0	442.0	461.0	466.6
35°	389.8	411.1	430.2	451.5	459.5
37.5°	373.1	395.3	418.3	442.8	451.5
40°	354.1	377.9	406.4	433.3	442.0
42.5°	335.1	362.0	394.5	424.6	434.1
45°	316.1	344.6	383.4	414.3	424.6
47.5°	296.3	328.8	370.7	404.0	415.1
50°	277.3	312.1	358.1	392.9	404.8
52.5°	256.7	295.5	344.6	381.0	392.9
55°	237.7	278.8	331.1	369.2	381.0
57.5°	218.6	262.2	316.9	355.7	369.2
60°	199.6	245.6	302.6	342.2	355.7
62.5°	181.4	229.7	288.4	328.8	340.6
65°	162.4	213.9	273.3	313.7	326.4
67.5°	143.4	197.3	258.3	298.7	311.3
70°	124.4	179.8	242.4	283.6	294.7
72.5°	106.2	164.0	226.6	268.5	280.4
75°	87.9	147.3	211.5	251.9	264.6
77.5°	70.5	131.5	196.5	236.9	248.0
80°	54.7	115.7	181.4	221.8	232.9
82.5°	39.6	102.2	166.4	206.0	217.8
85°	26.1	88.7	152.9	191.7	203.6
87.5°	15.8	76.8	140.2	178.2	187.7
90°	7.1	66.5	129.1	165.6	176.7
92.5°	6.3	59.4	120.4	156.9	167.2
95°	5.5	53.1	111.7	147.3	156.9
97.5°	4.8	46.7	103.0	137.8	147.3
100°	4.0	41.2	95.9	129.1	138.6
102.5°	4.0	36.4	88.7	120.4	129.9
105°	3.2	31.7	81.6	113.3	122.8
107.5°	3.2	27.7	75.3	106.2	114.9
110°	3.2	23.8	68.9	99.0	107.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	2.4	19.8	63.4	91.9	100.6
115°	2.4	15.8	57.0	84.8	93.5
117.5°	2.4	11.9	51.5	78.4	86.3
120°	1.6	8.7	45.2	72.1	80.0
122.5°	1.6	5.5	40.4	65.0	72.9
125°	1.6	2.4	34.9	58.6	66.5
127.5°	1.6	0.8	29.3	52.3	59.4
130°	0.8	0.8	24.6	45.9	52.3
132.5°	0.8	0.8	19.0	39.6	46.7
135°	0.8	0.8	13.5	33.3	39.6
137.5°	0.8	0.0	8.7	26.9	32.5
140°	0.8	0.0	4.8	21.4	26.1
142.5°	0.8	0.0	0.8	15.1	20.6
145°	0.0	0.0	0.0	9.5	13.5
147.5°	0.0	0.0	0.0	4.0	7.9
150°	0.0	0.0	0.0	0.0	2.4
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)