

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P913767

Luminaire Tested: DFN2DIP-PN2F0-020D030US927-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913767
REPORT IS A COMBINATION OF REPORTS P900992 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-020D030US927-RLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

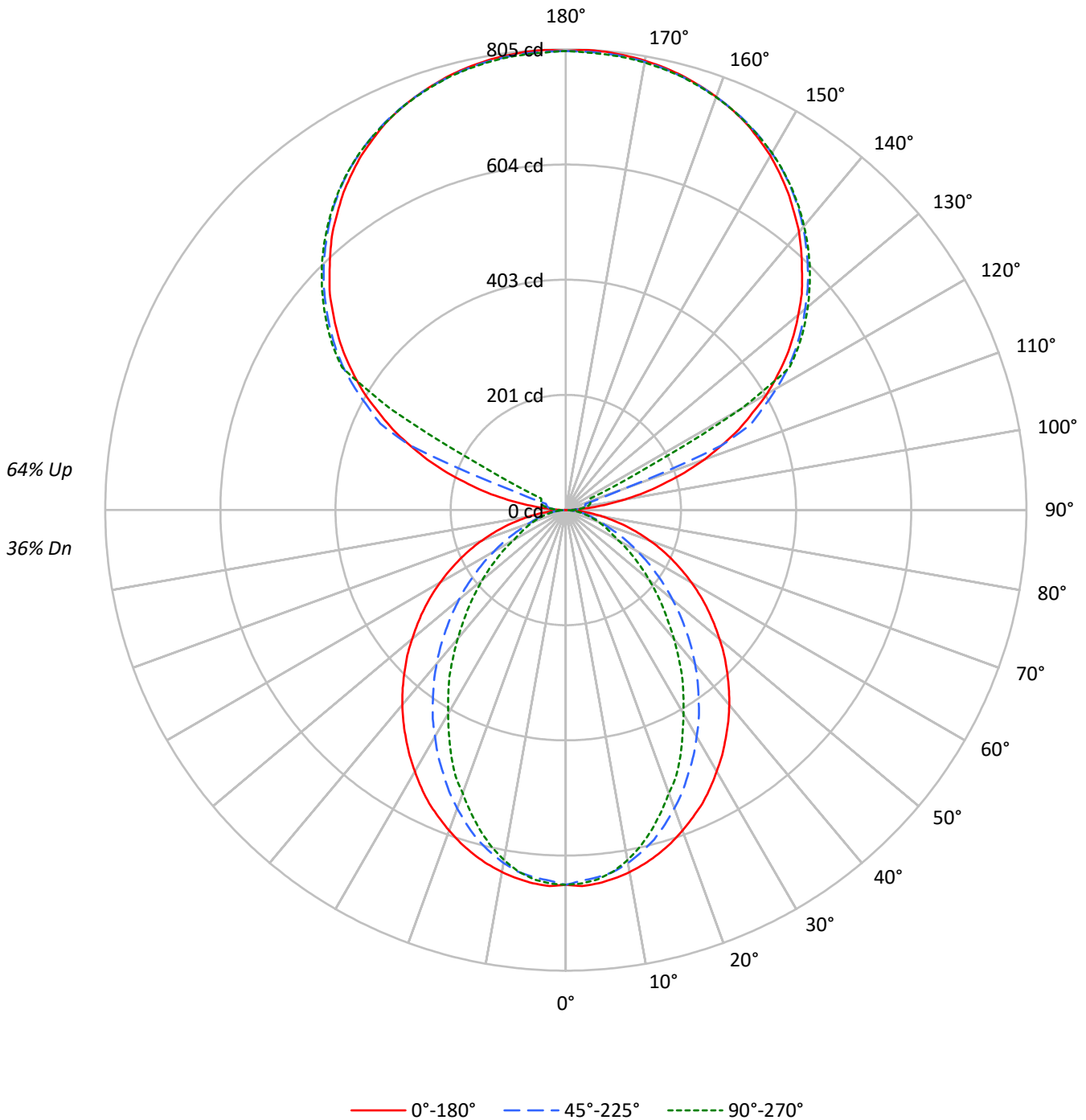
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3699.5 lumens
Efficiency: N/A
Efficacy: 105.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Indirect

Input Watts (W): 35.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.099
Total Harmonic Distortion (THDi): 0.979
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 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				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	0	
RCR																						
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36				36
1	95	91	87	84	86	83	80	77	67	65	63	52	51	50	39	38	38	31				31
2	87	80	74	69	78	73	68	63	59	56	53	46	44	42	35	33	32	27				27
3	79	70	63	58	72	64	58	53	52	48	45	41	38	36	31	29	28	23				23
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	28	26	24	20				20
5	67	56	48	42	60	51	44	39	42	37	33	33	30	27	25	23	21	18				18
6	62	50	42	37	56	46	39	34	38	33	29	30	27	24	23	21	19	16				16
7	57	45	38	32	52	41	35	30	34	29	26	28	24	21	21	19	17	14				14
8	53	41	34	29	48	38	31	27	31	26	23	25	22	19	20	17	15	13				13
9	49	37	30	25	45	34	28	24	29	24	20	23	20	17	18	16	14	12				12
10	46	34	27	23	42	32	25	21	26	22	18	22	18	15	17	14	13	11				11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1418	1418	1418
5°	1418	1393	1403
10°	1402	1362	1355
15°	1380	1314	1282
20°	1352	1250	1194
25°	1324	1177	1109
30°	1286	1104	1002
35°	1250	1025	908
40°	1212	943	800
45°	1169	854	703
50°	1124	763	608
55°	1076	667	517
60°	1022	567	423
65°	958	465	379
70°	881	370	340
75°	784	321	305
80°	646	260	258
85°	421	161	182

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1169 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.4	1.7
10°-20°	168.5	4.6
20°-30°	236.5	6.4
30°-40°	257.8	7.0
40°-50°	237.0	6.4
50°-60°	186.1	5.0
60°-70°	121.2	3.3
70°-80°	62.3	1.7
80°-90°	17.3	0.5
90°-100°	26.5	0.7
100°-110°	98.6	2.7
110°-120°	261.5	7.1
120°-130°	433.7	11.7
130°-140°	460.7	12.5
140°-150°	428.1	11.6
150°-160°	344.2	9.3
160°-170°	221.8	6.0
170°-180°	76.3	2.1
0°-30°	466.4	12.6
0°-40°	724.2	19.6
0°-60°	1147.3	31.0
0°-90°	1348.1	36.4
90°-120°	386.5	10.4
90°-150°	1709.0	46.2
90°-180°	2351.0	63.5
0°-180°	3699.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	655	655	655	655	655	
5°	655	652	644	650	648	62
15°	623	616	596	585	579	176
25°	565	546	507	483	474	260
35°	487	457	405	367	354	305
45°	398	358	296	254	240	308
55°	303	257	193	157	146	271
65°	204	156	103	83	81	203
75°	109	68	47	43	43	115
85°	25	13	11	11	11	29
90°	1	7	12	15	16	3
95°	38	18	23	26	25	45
105°	176	194	35	42	44	188
115°	334	344	358	89	48	329
125°	472	479	490	494	496	421
135°	584	593	598	604	603	451
145°	677	677	687	691	688	424
155°	746	741	748	751	746	344
165°	786	782	784	788	784	222
175°	804	800	801	805	799	76
180°	802	802	802	802	802	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	654.8	654.8	654.8	654.8	654.8
2.5°	657.7	654.8	648.2	654.3	653.1
5°	654.8	651.9	644.1	649.5	647.7
7.5°	649.5	645.9	637.6	640.0	637.0
10°	642.4	638.2	626.4	624.6	621.1
12.5°	633.5	628.1	612.1	608.6	602.1
15°	622.8	616.2	596.1	584.9	579.0
17.5°	610.4	600.9	576.0	562.9	553.5
20°	596.1	584.2	554.7	539.9	526.8
22.5°	580.7	567.1	532.7	512.6	503.7
25°	565.4	546.4	507.2	483.0	474.0
27.5°	547.0	526.8	483.5	455.7	442.0
30°	527.4	504.9	457.5	427.3	411.2
32.5°	508.4	481.2	432.6	397.0	382.2
35°	487.1	456.9	404.8	367.4	354.3
37.5°	466.4	433.7	378.7	337.8	323.0
40°	444.4	408.9	351.4	309.3	293.9
42.5°	421.9	384.0	324.2	280.3	265.5
45°	398.2	358.5	296.4	254.2	240.0
47.5°	375.7	333.7	269.7	227.5	214.5
50°	350.9	308.8	243.6	202.6	190.3
52.5°	326.5	282.0	218.6	179.6	168.3
55°	302.8	256.6	192.6	157.1	145.8
57.5°	278.5	231.1	169.5	136.3	126.8
60°	253.7	206.2	145.2	115.0	105.5
62.5°	229.3	182.0	124.5	96.0	91.3
65°	204.5	156.5	103.1	83.0	81.2
67.5°	180.8	132.7	83.0	72.9	71.1
70°	155.8	109.6	68.7	62.8	60.4
72.5°	132.1	88.2	57.4	52.8	51.6
75°	109.0	67.5	47.4	43.3	42.7
77.5°	86.0	48.0	37.3	34.9	33.7
80°	64.6	34.4	28.4	26.1	26.1
82.5°	45.0	23.1	19.6	18.4	18.4
85°	25.4	13.0	11.2	11.2	11.2
87.5°	9.5	4.8	4.8	4.1	4.1
90°	0.6	7.0	11.6	14.6	15.6
92.5°	14.6	12.2	13.9	15.1	15.6
95°	37.7	18.5	22.6	25.6	25.0
97.5°	67.9	20.4	29.5	31.4	31.9
100°	102.7	23.2	33.1	37.7	38.9
102.5°	141.0	139.9	34.2	40.6	42.4
105°	176.4	193.8	35.4	41.7	44.1
107.5°	217.6	232.1	36.6	42.9	45.3
110°	257.1	269.3	101.6	43.6	45.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	294.3	304.7	294.8	44.7	46.4
115°	333.7	343.6	358.1	89.4	47.6
117.5°	368.0	379.5	389.4	306.4	154.4
120°	406.2	414.9	425.4	432.4	354.0
122.5°	438.7	448.1	459.7	463.1	463.7
125°	471.8	479.3	490.4	494.5	496.2
127.5°	502.0	510.1	518.9	524.7	525.2
130°	530.4	539.8	546.1	552.5	552.0
132.5°	559.4	567.0	573.4	578.6	578.1
135°	583.8	593.2	598.3	604.2	603.0
137.5°	609.3	616.3	622.2	628.0	626.2
140°	634.3	639.0	645.3	650.5	647.7
142.5°	655.3	659.3	666.9	671.5	668.6
145°	677.3	676.7	686.6	690.6	687.7
147.5°	696.4	694.7	704.6	707.4	705.1
150°	715.0	711.0	720.3	723.7	720.8
152.5°	730.6	726.0	734.7	738.2	734.2
155°	745.8	740.6	747.5	751.0	746.4
157.5°	758.0	753.4	758.6	762.6	758.0
160°	768.4	764.9	768.4	771.9	767.8
162.5°	777.7	774.2	777.1	781.2	775.9
165°	785.8	782.4	784.1	788.1	784.1
167.5°	792.2	788.7	790.4	794.6	789.3
170°	797.4	793.9	795.1	799.2	793.9
172.5°	800.9	797.4	798.6	802.6	797.4
175°	803.7	799.7	800.9	804.9	799.2
177.5°	804.9	800.9	801.5	805.6	800.3
180°	802.1	802.1	802.1	802.1	802.1



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	6.83	7.56	7.90	8.63	10.08	2.80	3.53	3.87	4.60	6.05
	3H	8.48	9.13	9.56	10.21	11.68	3.96	4.61	5.04	5.69	7.16
	4H	9.07	9.69	10.16	10.77	12.25	4.40	5.01	5.49	6.09	7.57
	6H	9.47	10.04	10.57	11.12	12.61	4.70	5.27	5.80	6.35	7.84
	8H	9.58	10.12	10.69	11.22	12.71	4.78	5.32	5.88	6.42	7.90
	12H	9.63	10.15	10.74	11.24	12.75	4.81	5.32	5.92	6.41	7.92
4H	2H	6.83	7.45	7.93	8.53	10.01	3.37	3.99	4.47	5.07	6.55
	3H	8.63	9.14	9.73	10.25	11.74	4.69	5.21	5.79	6.31	7.80
	4H	9.30	9.77	10.41	10.87	12.38	5.22	5.69	6.33	6.79	8.30
	6H	9.79	10.19	10.91	11.31	12.82	5.62	6.02	6.73	7.14	8.64
	8H	9.95	10.33	11.07	11.44	12.96	5.73	6.11	6.85	7.22	8.74
	12H	10.03	10.37	11.16	11.50	13.02	5.78	6.13	6.92	7.25	8.77
8H	4H	9.26	9.63	10.37	10.74	12.26	5.48	5.86	6.60	6.97	8.49
	6H	9.80	10.11	10.93	11.26	12.78	5.97	6.28	7.11	7.44	8.95
	8H	10.00	10.27	11.14	11.40	12.94	6.15	6.42	7.29	7.56	9.09
	12H	10.12	10.36	11.26	11.49	13.06	6.25	6.49	7.40	7.62	9.19
12H	4H	9.20	9.54	10.33	10.67	12.19	5.48	5.82	6.61	6.94	8.47
	6H	9.77	10.04	10.91	11.18	12.71	6.02	6.29	7.16	7.42	8.96
	8H	9.97	10.21	11.12	11.34	12.91	6.21	6.45	7.35	7.58	9.15