

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: P924675

Luminaire Tested: DFN2DIP-PN2F0-020D020US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924675
REPORT IS A COMBINATION OF REPORTS P900982 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-020D020US950-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

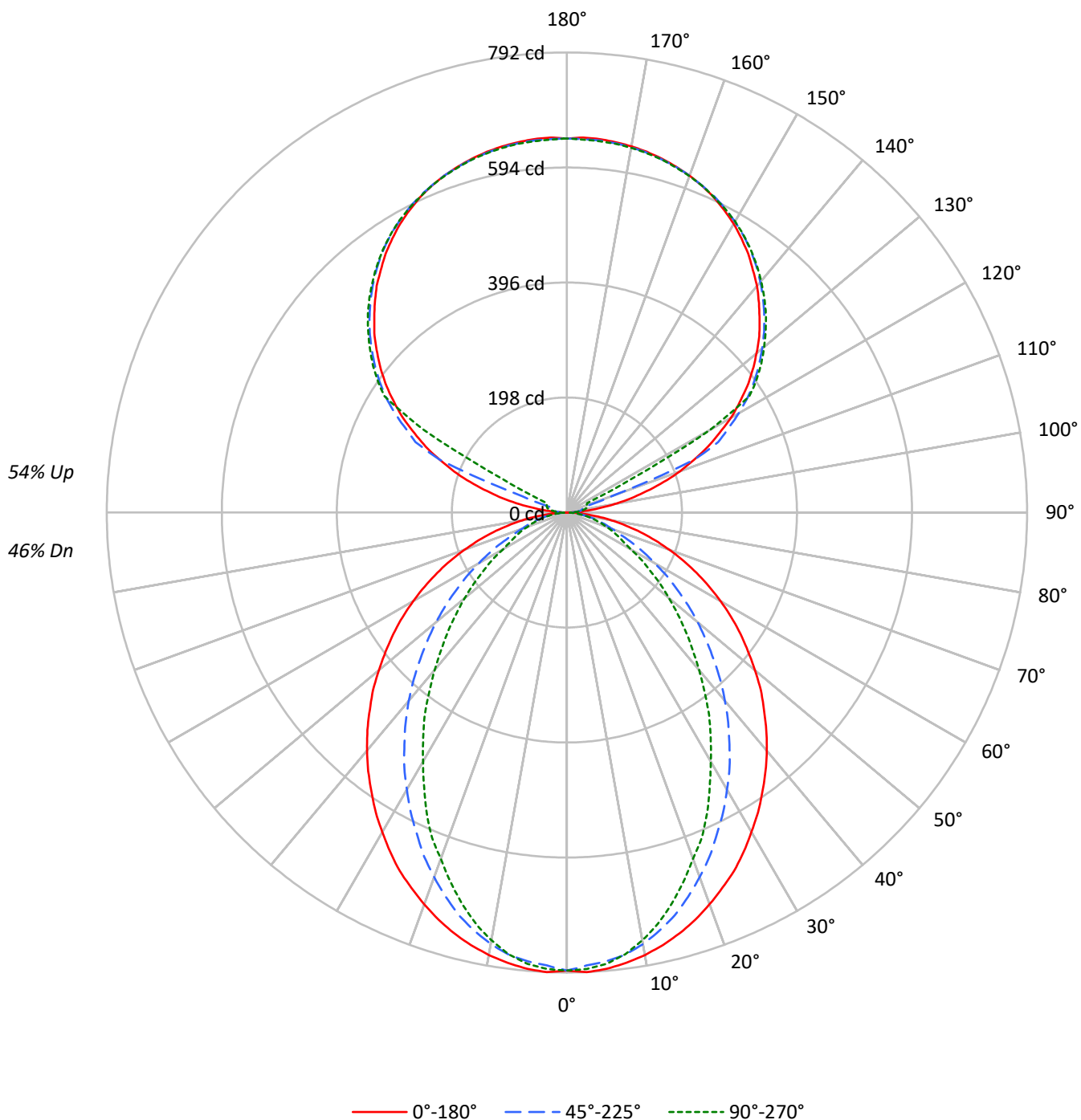
Lumens per Lamp: N/A
Luminaire Lumens: 3510.7 lumens
Efficiency: N/A
Efficacy: 108.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 32.3
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

TEST NUMBER: P924675

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US950-RLLONL

Luminous Intensity Polar Plot



TEST NUMBER: P924675

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US950-RLLONL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	106	106	106	106	98	98	98	98	81	81	81	66	66	66	53	53	53
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	47	46	45
2	89	82	76	71	82	76	70	66	63	60	57	52	50	48	42	40	39
3	81	72	65	60	75	67	61	56	56	52	48	47	43	41	38	35	34
4	75	64	57	51	68	60	53	48	50	45	41	42	38	35	34	31	29
5	69	58	50	44	63	53	46	41	45	40	36	38	34	31	31	28	26
6	63	52	44	38	58	48	41	36	41	36	32	34	30	27	28	25	23
7	59	47	39	34	54	44	37	32	37	32	28	31	27	24	26	23	21
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19
9	51	39	32	27	47	36	30	25	31	26	22	27	23	20	22	19	17
10	48	36	29	24	44	33	27	23	29	24	20	25	21	18	20	18	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1708	1708	1708
5°	1708	1677	1689
10°	1688	1641	1632
15°	1662	1583	1545
20°	1629	1505	1438
25°	1595	1418	1336
30°	1549	1329	1206
35°	1505	1234	1093
40°	1460	1136	963
45°	1407	1028	846
50°	1353	919	732
55°	1296	803	622
60°	1230	683	510
65°	1154	560	456
70°	1061	446	409
75°	945	386	367
80°	777	314	311
85°	507	194	220

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1407 cd/sqm

TEST NUMBER: P924675

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US950-RLLONL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	73.9	2.1
10°-20°	202.9	5.8
20°-30°	284.8	8.1
30°-40°	310.5	8.8
40°-50°	285.4	8.1
50°-60°	224.1	6.4
60°-70°	145.9	4.2
70°-80°	75.1	2.1
80°-90°	20.3	0.6
90°-100°	21.2	0.6
100°-110°	79.1	2.3
110°-120°	209.9	6.0
120°-130°	348.2	9.9
130°-140°	369.8	10.5
140°-150°	343.7	9.8
150°-160°	276.4	7.9
160°-170°	178.1	5.1
170°-180°	61.3	1.7
0°-30°	561.6	16.0
0°-40°	872.1	24.8
0°-60°	1381.7	39.4
0°-90°	1622.9	46.2
90°-120°	310.3	8.8
90°-150°	1372.0	39.1
90°-180°	1888.0	53.8
0°-180°	3510.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	789	789	789	789	789	
5°	789	785	776	782	780	75
15°	750	742	718	704	697	211
25°	681	658	611	582	571	313
35°	587	550	488	442	427	367
45°	480	432	357	306	289	370
55°	365	309	232	189	176	326
65°	246	188	124	100	98	244
75°	131	81	57	52	51	139
85°	31	16	14	14	14	35
90°	0	6	9	12	13	3
95°	30	15	18	20	20	36
105°	142	156	28	34	35	151
115°	268	276	288	72	38	264
125°	379	385	394	397	398	338
135°	469	476	480	485	484	362
145°	544	543	551	554	552	340
155°	599	594	600	603	599	276
165°	631	628	629	633	629	178
175°	645	642	643	646	642	61
180°	644	644	644	644	644	

TEST NUMBER: P924675

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US950-RLLONL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	788.6	788.6	788.6	788.6	788.6
2.5°	792.1	788.6	780.7	787.9	786.5
5°	788.6	785.0	775.7	782.2	780.0
7.5°	782.2	777.9	767.9	770.7	767.1
10°	773.6	768.5	754.3	752.1	747.9
12.5°	762.9	756.4	737.2	733.0	725.0
15°	750.0	742.1	717.9	704.3	697.3
17.5°	735.1	723.6	693.7	677.9	666.6
20°	717.9	703.6	668.0	650.2	634.4
22.5°	699.4	683.0	641.6	617.3	606.6
25°	680.9	658.0	610.8	581.7	570.9
27.5°	658.7	634.4	582.3	548.7	532.3
30°	635.2	608.0	550.9	514.6	495.2
32.5°	612.3	579.5	521.0	478.1	460.3
35°	586.6	550.3	487.5	442.5	426.7
37.5°	561.6	522.3	456.0	406.8	388.9
40°	535.2	492.5	423.2	372.5	353.9
42.5°	508.1	462.5	390.4	337.5	319.8
45°	479.6	431.7	356.9	306.1	289.0
47.5°	452.5	401.8	324.7	274.0	258.3
50°	422.5	371.9	293.4	244.0	229.2
52.5°	393.1	339.6	263.3	216.3	202.7
55°	364.6	309.0	231.9	189.2	175.5
57.5°	335.4	278.3	204.2	164.2	152.7
60°	305.5	248.3	174.9	138.5	127.1
62.5°	276.2	219.1	149.9	115.6	109.9
65°	246.2	188.4	124.2	100.0	97.8
67.5°	217.7	159.8	100.0	87.8	85.7
70°	187.7	132.0	82.7	75.7	72.8
72.5°	159.1	106.3	69.2	63.5	62.1
75°	131.3	81.3	57.0	52.1	51.4
77.5°	103.5	57.8	44.9	42.1	40.6
80°	77.8	41.4	34.2	31.4	31.4
82.5°	54.2	27.9	23.6	22.1	22.1
85°	30.6	15.6	13.5	13.5	13.5
87.5°	11.4	5.7	5.7	5.0	5.0
90°	0.5	5.6	9.3	11.6	12.6
92.5°	11.6	9.8	11.2	12.1	12.6
95°	30.2	14.9	18.1	20.5	20.0
97.5°	54.5	16.3	23.8	25.2	25.7
100°	82.5	18.6	26.5	30.2	31.2
102.5°	113.2	112.3	27.5	32.6	34.1
105°	141.7	155.6	28.4	33.5	35.4
107.5°	174.8	186.3	29.4	34.4	36.3
110°	206.4	216.2	81.6	35.0	36.8

TEST NUMBER: P924675

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US950-RLLONL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	236.2	244.6	236.7	35.9	37.3
115°	267.9	275.8	287.5	71.7	38.3
117.5°	295.4	304.7	312.6	246.0	123.9
120°	326.2	333.1	341.5	347.2	284.2
122.5°	352.2	359.7	369.0	371.8	372.3
125°	378.8	384.8	393.7	397.0	398.4
127.5°	403.1	409.6	416.6	421.2	421.7
130°	425.9	433.3	438.5	443.6	443.1
132.5°	449.1	455.2	460.3	464.5	464.1
135°	468.8	476.2	480.3	485.1	484.2
137.5°	489.2	494.8	499.5	504.2	502.8
140°	509.2	513.1	518.1	522.3	520.0
142.5°	526.0	529.4	535.4	539.1	536.7
145°	543.8	543.3	551.2	554.5	552.2
147.5°	559.1	557.7	565.6	567.9	566.1
150°	574.0	570.8	578.2	581.0	578.7
152.5°	586.6	582.9	589.9	592.7	589.4
155°	598.7	594.5	600.2	602.9	599.2
157.5°	608.6	604.8	609.0	612.3	608.6
160°	617.0	614.1	617.0	619.7	616.5
162.5°	624.3	621.5	623.9	627.2	623.0
165°	630.9	628.1	629.4	632.8	629.4
167.5°	636.0	633.2	634.6	637.9	633.6
170°	640.2	637.4	638.3	641.6	637.4
172.5°	643.0	640.2	641.2	644.4	640.2
175°	645.3	642.0	643.0	646.2	641.6
177.5°	646.2	643.0	643.5	646.7	642.5
180°	643.9	643.9	643.9	643.9	643.9

TEST NUMBER: P924675

CATALOG NUMBER: DFN2DIP-PN2F0-020D020US950-RLONL

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	8.53	9.33	9.52	10.33	11.66	4.50	5.30	5.49	6.30	7.63
	3H	10.18	10.90	11.19	11.91	13.26	5.67	6.38	6.67	7.39	8.74
	4H	10.77	11.45	11.79	12.47	13.82	6.10	6.78	7.12	7.80	9.15
	6H	11.18	11.80	12.21	12.82	14.19	6.41	7.03	7.44	8.05	9.42
	8H	11.30	11.89	12.33	12.92	14.29	6.49	7.08	7.52	8.12	9.48
	12H	11.35	11.91	12.39	12.94	14.33	6.52	7.09	7.56	8.12	9.50
4H	2H	8.54	9.21	9.56	10.23	11.58	5.08	5.75	6.10	6.77	8.12
	3H	10.34	10.90	11.37	11.95	13.31	6.41	6.97	7.44	8.01	9.38
	4H	11.01	11.53	12.06	12.56	13.96	6.94	7.45	7.98	8.49	9.88
	6H	11.51	11.95	12.56	13.01	14.40	7.34	7.78	8.39	8.84	10.22
	8H	11.67	12.08	12.72	13.14	14.54	7.45	7.87	8.51	8.92	10.32
	12H	11.75	12.13	12.82	13.19	14.60	7.51	7.88	8.58	8.95	10.35
8H	4H	10.98	11.39	12.03	12.44	13.84	7.20	7.61	8.25	8.67	10.07
	6H	11.52	11.86	12.59	12.95	14.35	7.70	8.04	8.77	9.13	10.53
	8H	11.72	12.02	12.80	13.10	14.52	7.87	8.17	8.95	9.25	10.67
	12H	11.84	12.11	12.93	13.18	14.64	7.98	8.24	9.06	9.31	10.77
12H	4H	10.93	11.30	11.99	12.36	13.77	7.20	7.57	8.27	8.64	10.05
	6H	11.49	11.79	12.57	12.87	14.29	7.74	8.04	8.82	9.12	10.53
	8H	11.70	11.96	12.78	13.03	14.49	7.93	8.20	9.02	9.27	10.73