

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: P916494

Luminaire Tested: DFN2DIP-PN2F0-020D030US930-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P916494
REPORT IS A COMBINATION OF REPORTS P899472 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-020D030US930-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

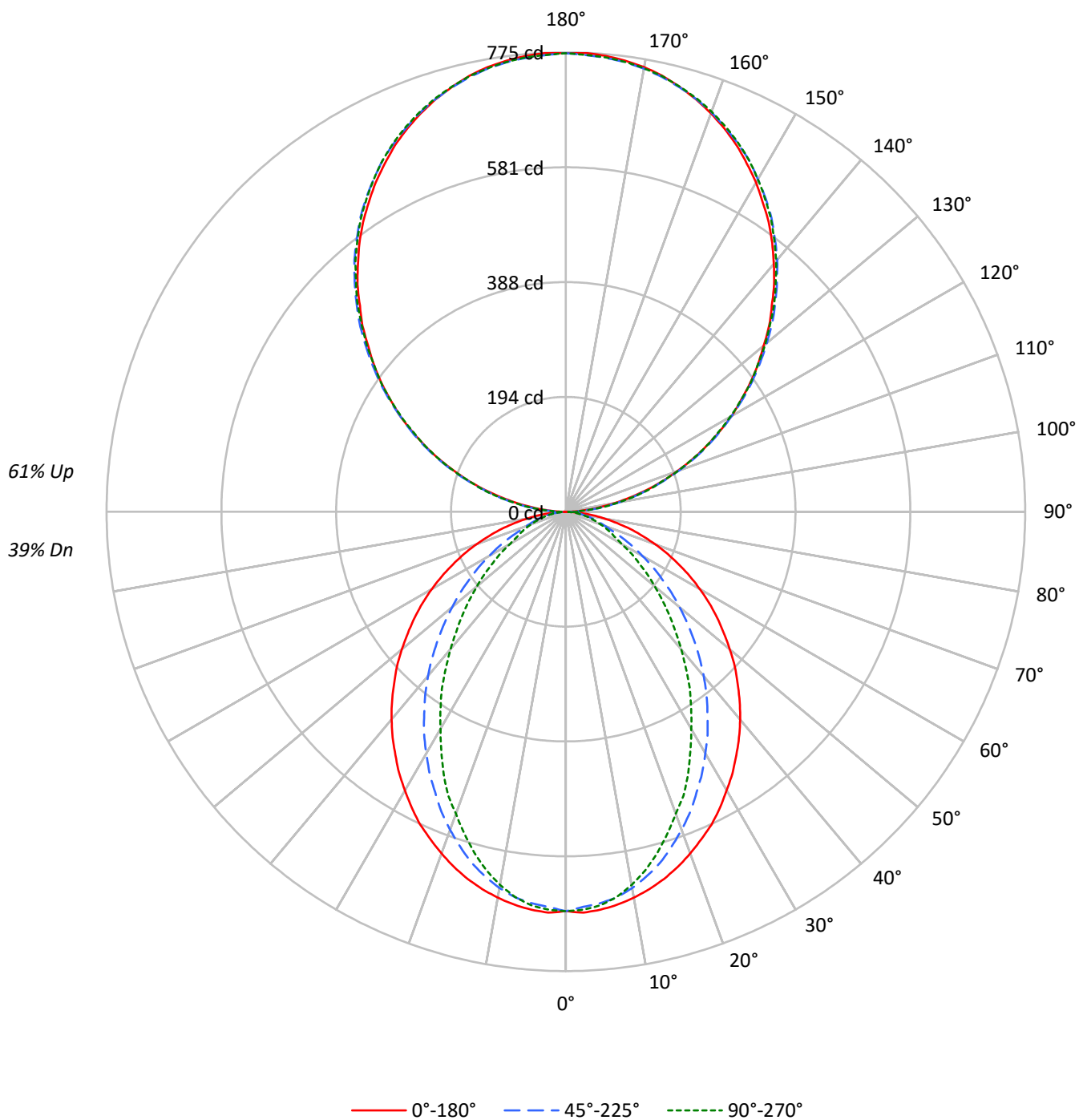
Lumens per Lamp: N/A
Luminaire Lumens: 3550.6 lumens
Efficiency: N/A
Efficacy: 100.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Indirect

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

TEST NUMBER: P916494

CATALOG NUMBER: DFN2DIP-PN2F0-020D030US930-RLLFLL

Luminous Intensity Polar Plot



TEST NUMBER: P916494

CATALOG NUMBER: DFN2DIP-PN2F0-020D030US930-RLLFLL

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	105	105	105	105	95	95	95	95	77	77	77	61	61	61	46	46	46
1	96	92	88	85	87	83	80	78	68	66	64	54	53	51	41	40	40
2	87	80	75	70	79	73	68	64	60	57	54	48	46	44	37	35	34
3	80	71	64	58	73	65	59	54	53	49	46	43	40	37	33	31	29
4	73	63	55	50	66	58	51	46	48	43	39	38	35	32	30	27	26
5	67	56	48	43	61	52	45	40	43	38	34	35	31	28	27	24	22
6	62	51	43	37	56	46	40	35	39	33	30	31	28	25	25	22	20
7	57	46	38	33	52	42	35	30	35	30	26	29	25	22	22	20	18
8	53	41	34	29	49	38	32	27	32	27	23	26	22	20	21	18	16
9	50	38	31	26	45	35	29	24	29	24	21	24	20	18	19	17	15
10	46	35	28	23	42	32	26	22	27	22	19	22	19	16	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1460	1460	1460
5°	1460	1433	1443
10°	1443	1402	1394
15°	1421	1353	1320
20°	1392	1286	1229
25°	1363	1212	1141
30°	1324	1136	1031
35°	1286	1055	934
40°	1247	971	823
45°	1203	878	723
50°	1156	785	625
55°	1107	686	531
60°	1051	583	436
65°	986	479	390
70°	907	381	350
75°	807	330	314
80°	664	269	265
85°	434	167	189

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1203 cd/sqm

TEST NUMBER: P916494

CATALOG NUMBER: DFN2DIP-PN2F0-020D030US930-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.2	1.8
10°-20°	173.4	4.9
20°-30°	243.4	6.9
30°-40°	265.4	7.5
40°-50°	243.9	6.9
50°-60°	191.5	5.4
60°-70°	124.7	3.5
70°-80°	64.2	1.8
80°-90°	18.6	0.5
90°-100°	47.9	1.3
100°-110°	152.1	4.3
110°-120°	260.3	7.3
120°-130°	342.3	9.6
130°-140°	384.2	10.8
140°-150°	376.8	10.6
150°-160°	316.1	8.9
160°-170°	209.6	5.9
170°-180°	73.3	2.1
0°-30°	480.0	13.5
0°-40°	745.3	21.0
0°-60°	1180.8	33.3
0°-90°	1388.2	39.1
90°-120°	460.2	13.0
90°-150°	1563.5	44.0
90°-180°	2162.0	60.9
0°-180°	3550.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	674	674	674	674	674	
5°	674	671	663	668	667	64
15°	641	634	614	602	596	181
25°	582	562	522	497	488	268
35°	501	470	417	378	365	314
45°	410	369	305	262	247	317
55°	312	264	198	162	150	278
65°	210	161	106	85	84	209
75°	112	70	49	44	44	119
85°	26	13	12	12	12	30
90°	1	8	23	21	22	4
95°	34	41	42	42	41	38
105°	140	142	144	145	145	148
115°	261	265	264	263	261	258
125°	380	386	384	382	381	339
135°	491	499	500	499	497	380
145°	597	601	605	606	603	373
155°	682	684	686	689	687	314
165°	742	741	741	746	743	209
175°	772	770	769	774	770	73
180°	774	774	774	774	774	

TEST NUMBER: P916494

CATALOG NUMBER: DFN2DIP-PN2F0-020D030US930-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	673.9	673.9	673.9	673.9	673.9
2.5°	676.9	673.9	667.2	673.4	672.1
5°	673.9	670.9	662.9	668.5	666.6
7.5°	668.5	664.8	656.2	658.7	655.6
10°	661.1	656.8	644.7	642.8	639.2
12.5°	652.0	646.4	630.0	626.4	619.6
15°	641.0	634.2	613.5	601.9	595.9
17.5°	628.2	618.4	592.8	579.4	569.6
20°	613.5	601.3	570.9	555.6	542.2
22.5°	597.7	583.7	548.3	527.6	518.4
25°	581.9	562.3	522.0	497.1	487.9
27.5°	563.0	542.2	497.7	469.0	454.9
30°	542.8	519.6	470.8	439.8	423.2
32.5°	523.3	495.2	445.2	408.6	393.4
35°	501.3	470.3	416.6	378.1	364.7
37.5°	480.0	446.4	389.7	347.6	332.4
40°	457.4	420.9	361.7	318.4	302.5
42.5°	434.2	395.3	333.6	288.5	273.3
45°	409.9	368.9	305.0	261.6	247.0
47.5°	386.7	343.4	277.5	234.2	220.8
50°	361.1	317.8	250.7	208.6	195.8
52.5°	336.0	290.2	225.0	184.8	173.3
55°	311.6	264.1	198.2	161.7	150.0
57.5°	286.7	237.8	174.5	140.3	130.5
60°	261.1	212.2	149.4	118.4	108.6
62.5°	236.0	187.3	128.1	98.8	93.9
65°	210.4	161.0	106.2	85.4	83.6
67.5°	186.1	136.6	85.4	75.0	73.2
70°	160.4	112.8	70.7	64.7	62.2
72.5°	136.0	90.8	59.1	54.3	53.1
75°	112.2	69.5	48.8	44.5	43.9
77.5°	88.5	49.4	38.4	36.0	34.7
80°	66.4	35.4	29.3	26.8	26.8
82.5°	46.3	23.8	20.1	18.9	18.9
85°	26.2	13.4	11.6	11.6	11.6
87.5°	9.8	4.9	4.9	4.2	4.2
90°	0.7	8.4	22.8	21.4	22.2
92.5°	14.4	19.6	20.3	21.0	21.0
95°	34.1	40.6	41.7	41.7	40.6
97.5°	56.7	62.7	65.3	65.3	65.3
100°	82.8	88.1	90.0	90.0	89.4
102.5°	110.3	114.3	116.8	117.6	116.8
105°	140.4	142.3	143.7	144.8	144.8
107.5°	170.2	173.0	173.0	173.5	170.2
110°	199.2	202.9	202.9	202.9	201.1

TEST NUMBER: P916494

CATALOG NUMBER: DFN2DIP-PN2F0-020D030US930-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	230.4	234.4	233.7	231.8	230.4
115°	261.2	264.9	263.7	263.1	261.2
117.5°	291.7	296.9	293.6	291.7	289.8
120°	322.5	327.7	322.5	322.5	320.4
122.5°	350.5	357.0	353.8	351.9	350.5
125°	379.9	385.7	383.8	381.7	381.1
127.5°	408.5	415.8	413.3	410.4	408.5
130°	435.4	443.8	442.6	441.2	438.6
132.5°	465.5	472.0	472.5	469.2	467.3
135°	491.4	498.6	500.0	499.3	497.4
137.5°	520.2	526.1	527.3	526.8	524.0
140°	545.7	551.5	554.8	554.8	552.2
142.5°	571.9	577.6	579.5	580.2	577.6
145°	596.6	601.2	605.0	605.6	603.1
147.5°	618.7	624.5	627.3	628.5	625.9
150°	641.6	645.6	648.1	650.2	648.1
152.5°	661.9	665.8	669.0	671.6	669.0
155°	682.2	684.0	686.1	689.3	687.3
157.5°	699.6	701.0	702.2	706.9	703.6
160°	715.3	716.6	717.4	721.3	718.5
162.5°	729.7	729.7	730.4	734.8	731.6
165°	742.1	741.4	741.4	746.0	742.7
167.5°	753.3	751.1	751.1	755.8	752.5
170°	761.7	759.8	759.1	763.8	759.8
172.5°	767.4	765.6	764.9	769.6	765.6
175°	772.2	770.3	768.9	773.6	769.6
177.5°	774.7	772.8	771.4	775.4	771.4
180°	773.6	773.6	773.6	773.6	773.6

TEST NUMBER: P916494

CATALOG NUMBER: DFN2DIP-PN2F0-020D030US930-RLLFLL

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	7.23	7.98	8.28	9.03	10.45	3.20	3.95	4.25	5.00	6.42
	3H	8.88	9.55	9.94	10.61	12.05	4.37	5.04	5.43	6.10	7.54
	4H	9.47	10.11	10.54	11.17	12.62	4.80	5.43	5.87	6.50	7.94
	6H	9.87	10.46	10.96	11.52	12.98	5.10	5.68	6.18	6.75	8.21
	8H	9.99	10.54	11.07	11.63	13.08	5.18	5.74	6.27	6.82	8.27
	12H	10.04	10.57	11.13	11.64	13.12	5.21	5.74	6.30	6.82	8.29
4H	2H	7.23	7.87	8.31	8.93	10.38	3.78	4.41	4.85	5.47	6.92
	3H	9.03	9.56	10.12	10.65	12.11	5.10	5.63	6.18	6.72	8.17
	4H	9.71	10.19	10.80	11.27	12.75	5.63	6.11	6.72	7.19	8.67
	6H	10.20	10.61	11.30	11.72	13.19	6.02	6.44	7.12	7.54	9.02
	8H	10.36	10.75	11.46	11.84	13.33	6.14	6.53	7.24	7.62	9.11
	12H	10.44	10.79	11.56	11.90	13.39	6.19	6.54	7.31	7.65	9.15
8H	4H	9.66	10.05	10.76	11.15	12.64	5.89	6.28	6.99	7.37	8.86
	6H	10.20	10.52	11.33	11.66	13.15	6.38	6.70	7.50	7.84	9.32
	8H	10.41	10.69	11.53	11.81	13.31	6.56	6.84	7.69	7.96	9.46
	12H	10.53	10.77	11.66	11.89	13.43	6.66	6.91	7.79	8.02	9.56
12H	4H	9.61	9.96	10.73	11.07	12.56	5.89	6.24	7.00	7.35	8.84
	6H	10.18	10.46	11.31	11.58	13.08	6.42	6.70	7.55	7.82	9.33
	8H	10.38	10.63	11.51	11.74	13.29	6.62	6.86	7.75	7.98	9.52