

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: P905602

Luminaire Tested: DFN2DIP-PN2F0-030D030US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905602
REPORT IS A COMBINATION OF REPORTS P899474 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D030US835-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

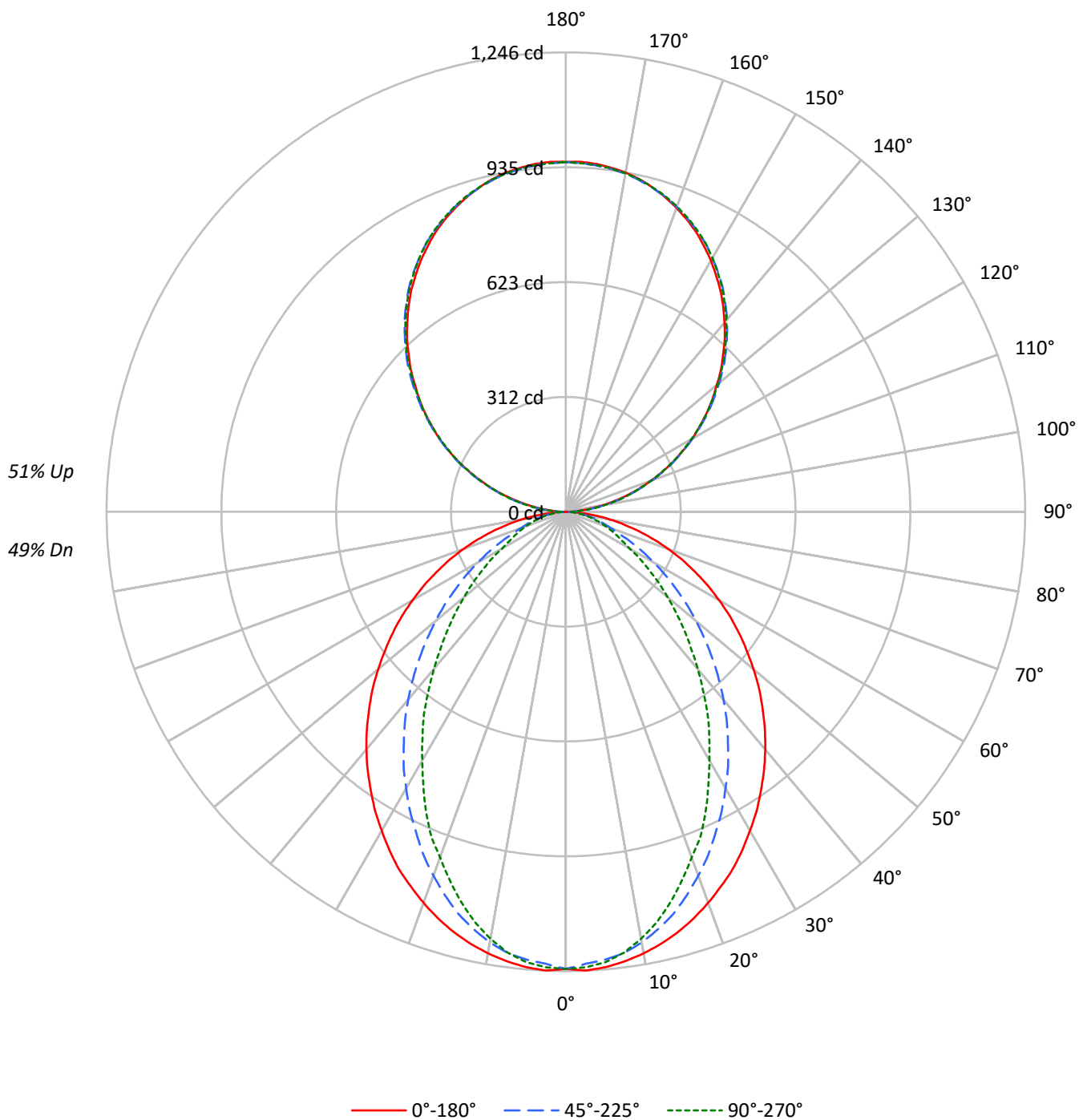
Lumens per Lamp: N/A
Luminaire Lumens: 5204.9 lumens
Efficiency: N/A
Efficacy: 111.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 46.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9972
Total Harmonic Distortion (THDi): 0.128
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P905602

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US835-RLLFLL

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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	107	107	107	107	99	99	99	99	83	83	83	68	68	68	55	55	55
1	98	94	90	87	90	87	84	81	73	71	69	61	59	58	50	49	48
2	90	83	77	72	82	76	71	67	65	61	58	54	51	49	44	42	41
3	82	73	66	60	75	68	61	57	58	53	49	48	45	42	40	37	35
4	75	65	57	51	69	60	54	48	51	46	42	43	40	36	36	33	31
5	69	58	50	44	64	54	47	42	46	41	37	39	35	32	32	29	27
6	64	52	44	39	59	49	42	37	42	36	32	35	31	28	30	26	24
7	59	47	40	34	55	44	37	32	38	33	29	32	28	25	27	24	22
8	55	43	36	30	51	40	33	29	35	29	26	30	26	23	25	22	20
9	51	39	32	27	47	37	30	26	32	27	23	27	23	20	23	20	18
10	48	36	29	24	44	34	28	23	30	24	21	25	21	19	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2685	2685	2685
5°	2685	2637	2656
10°	2655	2580	2566
15°	2614	2489	2428
20°	2561	2366	2261
25°	2507	2229	2100
30°	2436	2090	1897
35°	2366	1940	1719
40°	2295	1786	1515
45°	2213	1616	1331
50°	2127	1445	1151
55°	2038	1262	978
60°	1934	1073	802
65°	1814	881	717
70°	1668	702	643
75°	1485	608	577
80°	1222	493	489
85°	799	307	347

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2213 cd/sqm

TEST NUMBER: P905602

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US835-RLFL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	116.2	2.2
10°-20°	319.0	6.1
20°-30°	447.9	8.6
30°-40°	488.2	9.4
40°-50°	448.7	8.6
50°-60°	352.4	6.8
60°-70°	229.4	4.4
70°-80°	118.1	2.3
80°-90°	32.8	0.6
90°-100°	58.7	1.1
100°-110°	186.5	3.6
110°-120°	319.2	6.1
120°-130°	419.8	8.1
130°-140°	471.2	9.1
140°-150°	462.1	8.9
150°-160°	387.7	7.4
160°-170°	257.1	4.9
170°-180°	89.9	1.7
0°-30°	883.1	17.0
0°-40°	1371.3	26.3
0°-60°	2172.4	41.7
0°-90°	2552.7	49.0
90°-120°	564.5	10.8
90°-150°	1917.7	36.8
90°-180°	2652.0	51.0
0°-180°	5204.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1240	1234	1220	1230	1226	118
15°	1179	1167	1129	1108	1096	332
25°	1070	1034	960	914	898	492
35°	922	865	766	696	671	577
45°	754	679	561	481	454	582
55°	573	486	365	297	276	512
65°	387	296	195	157	154	384
75°	206	128	90	82	81	218
85°	48	25	21	21	21	55
90°	1	10	28	26	27	5
95°	42	50	51	51	50	46
105°	172	174	176	178	178	182
115°	320	325	324	323	320	317
125°	466	473	471	468	467	416
135°	603	612	613	612	610	466
145°	732	737	742	743	740	457
155°	837	839	842	846	843	385
165°	910	909	909	915	911	257
175°	947	945	943	949	944	90
180°	949	949	949	949	949	

TEST NUMBER: P905602

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US835-RLFL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1239.9	1239.9	1239.9	1239.9	1239.9
2.5°	1245.5	1239.9	1227.5	1238.8	1236.6
5°	1239.9	1234.3	1219.7	1229.8	1226.4
7.5°	1229.8	1223.1	1207.4	1211.8	1206.2
10°	1216.3	1208.5	1186.1	1182.6	1176.0
12.5°	1199.5	1189.4	1159.1	1152.4	1140.0
15°	1179.3	1166.9	1128.8	1107.5	1096.3
17.5°	1155.7	1137.8	1090.6	1066.0	1048.0
20°	1128.8	1106.3	1050.2	1022.3	997.5
22.5°	1099.7	1073.8	1008.7	970.6	953.8
25°	1070.5	1034.5	960.5	914.5	897.6
27.5°	1035.7	997.5	915.6	862.9	837.0
30°	998.7	956.0	866.2	809.1	778.7
32.5°	962.7	911.1	819.2	751.8	723.7
35°	922.4	865.1	766.4	695.7	671.0
37.5°	883.1	821.3	717.0	639.5	611.6
40°	841.6	774.3	665.4	585.7	556.6
42.5°	798.9	727.2	613.8	530.7	502.7
45°	754.1	678.8	561.1	481.3	454.4
47.5°	711.4	631.8	510.6	430.8	406.2
50°	664.3	584.6	461.2	383.7	360.2
52.5°	618.2	534.1	414.1	340.0	318.7
55°	573.3	485.8	364.6	297.4	276.1
57.5°	527.4	437.6	321.0	258.1	240.1
60°	480.2	390.5	274.9	217.7	199.8
62.5°	434.3	344.5	235.6	181.8	172.9
65°	387.1	296.2	195.2	157.1	153.7
67.5°	342.3	251.3	157.1	138.0	134.6
70°	295.1	207.6	130.1	118.9	114.4
72.5°	250.2	167.1	108.8	99.9	97.6
75°	206.4	127.9	89.8	81.9	80.8
77.5°	162.7	90.8	70.7	66.2	63.9
80°	122.3	65.1	53.8	49.4	49.4
82.5°	85.2	43.8	37.0	34.8	34.8
85°	48.2	24.6	21.3	21.3	21.3
87.5°	18.0	8.9	8.9	7.9	7.9
90°	0.9	10.3	28.0	26.3	27.2
92.5°	17.7	24.0	24.9	25.7	25.7
95°	41.8	49.8	51.2	51.2	49.8
97.5°	69.5	76.9	80.1	80.1	80.1
100°	101.5	108.1	110.4	110.4	109.6
102.5°	135.3	140.2	143.3	144.2	143.3
105°	172.2	174.5	176.2	177.6	177.6
107.5°	208.8	212.2	212.2	212.8	208.8
110°	244.3	248.9	248.9	248.9	246.6

TEST NUMBER: P905602

CATALOG NUMBER: DFN2DIP-PN2F0-030D030US835-RLLFLL

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	282.6	287.5	286.6	284.3	282.6
115°	320.4	324.9	323.5	322.7	320.4
117.5°	357.8	364.1	360.1	357.8	355.5
120°	395.6	401.9	395.6	395.6	393.0
122.5°	429.9	437.9	433.9	431.6	429.9
125°	466.0	473.1	470.8	468.2	467.4
127.5°	501.1	510.0	506.9	503.4	501.1
130°	534.0	544.3	542.9	541.2	538.0
132.5°	570.9	578.9	579.5	575.5	573.2
135°	602.7	611.5	613.3	612.4	610.1
137.5°	638.1	645.3	646.7	646.2	642.7
140°	669.3	676.5	680.5	680.5	677.3
142.5°	701.4	708.5	710.8	711.7	708.5
145°	731.7	737.4	742.0	742.8	739.7
147.5°	758.9	766.0	769.4	770.9	767.7
150°	786.9	791.8	794.9	797.5	794.9
152.5°	811.8	816.6	820.6	823.8	820.6
155°	836.7	838.9	841.5	845.5	843.0
157.5°	858.1	859.8	861.3	867.0	863.0
160°	877.3	879.0	879.9	884.7	881.3
162.5°	895.0	895.0	895.9	901.3	897.3
165°	910.2	909.3	909.3	915.0	911.0
167.5°	923.9	921.3	921.3	927.0	923.0
170°	934.2	931.9	931.1	936.8	931.9
172.5°	941.3	939.1	938.2	943.9	939.1
175°	947.1	944.8	943.1	948.8	943.9
177.5°	950.2	947.9	946.2	951.1	946.2
180°	948.8	948.8	948.8	948.8	948.8

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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	10.37	11.19	11.34	12.17	13.46	6.34	7.16	7.31	8.14	9.43
	3H	12.03	12.76	13.01	13.75	15.06	7.51	8.24	8.49	9.24	10.55
	4H	12.62	13.32	13.62	14.31	15.63	7.95	8.64	8.94	9.64	10.95
	6H	13.03	13.67	14.03	14.67	16.00	8.25	8.89	9.26	9.89	11.22
	8H	13.14	13.75	14.16	14.77	16.09	8.34	8.94	9.35	9.96	11.29
	12H	13.20	13.77	14.21	14.78	16.13	8.37	8.95	9.39	9.96	11.31
4H	2H	10.38	11.08	11.39	12.07	13.39	6.92	7.62	7.92	8.61	9.93
	3H	12.19	12.77	13.20	13.79	15.12	8.25	8.83	9.26	9.85	11.18
	4H	12.86	13.39	13.88	14.41	15.76	8.78	9.31	9.80	10.33	11.68
	6H	13.36	13.81	14.39	14.85	16.20	9.18	9.64	10.21	10.68	12.03
	8H	13.52	13.95	14.55	14.98	16.34	9.30	9.73	10.33	10.76	12.13
	12H	13.61	13.99	14.65	15.04	16.41	9.36	9.74	10.41	10.79	12.16
8H	4H	12.83	13.25	13.86	14.28	15.65	9.05	9.48	10.08	10.51	11.87
	6H	13.37	13.72	14.42	14.79	16.16	9.55	9.90	10.60	10.97	12.33
	8H	13.57	13.88	14.64	14.94	16.32	9.72	10.03	10.79	11.09	12.47
	12H	13.70	13.97	14.76	15.02	16.45	9.83	10.10	10.89	11.15	12.58
12H	4H	12.78	13.16	13.83	14.21	15.58	9.05	9.44	10.10	10.48	11.85
	6H	13.34	13.65	14.41	14.71	16.09	9.59	9.90	10.65	10.96	12.34
	8H	13.55	13.82	14.61	14.87	16.30	9.79	10.06	10.85	11.11	12.53