

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: P913116

Luminaire Tested: DFN2DIP-4P3F0-030D040US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913116
REPORT IS A COMBINATION OF REPORTS P899052 AND P895917
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-4P3F0-030D040US927-RLLFLL
Description: 3 foot, 90deg - 4way Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

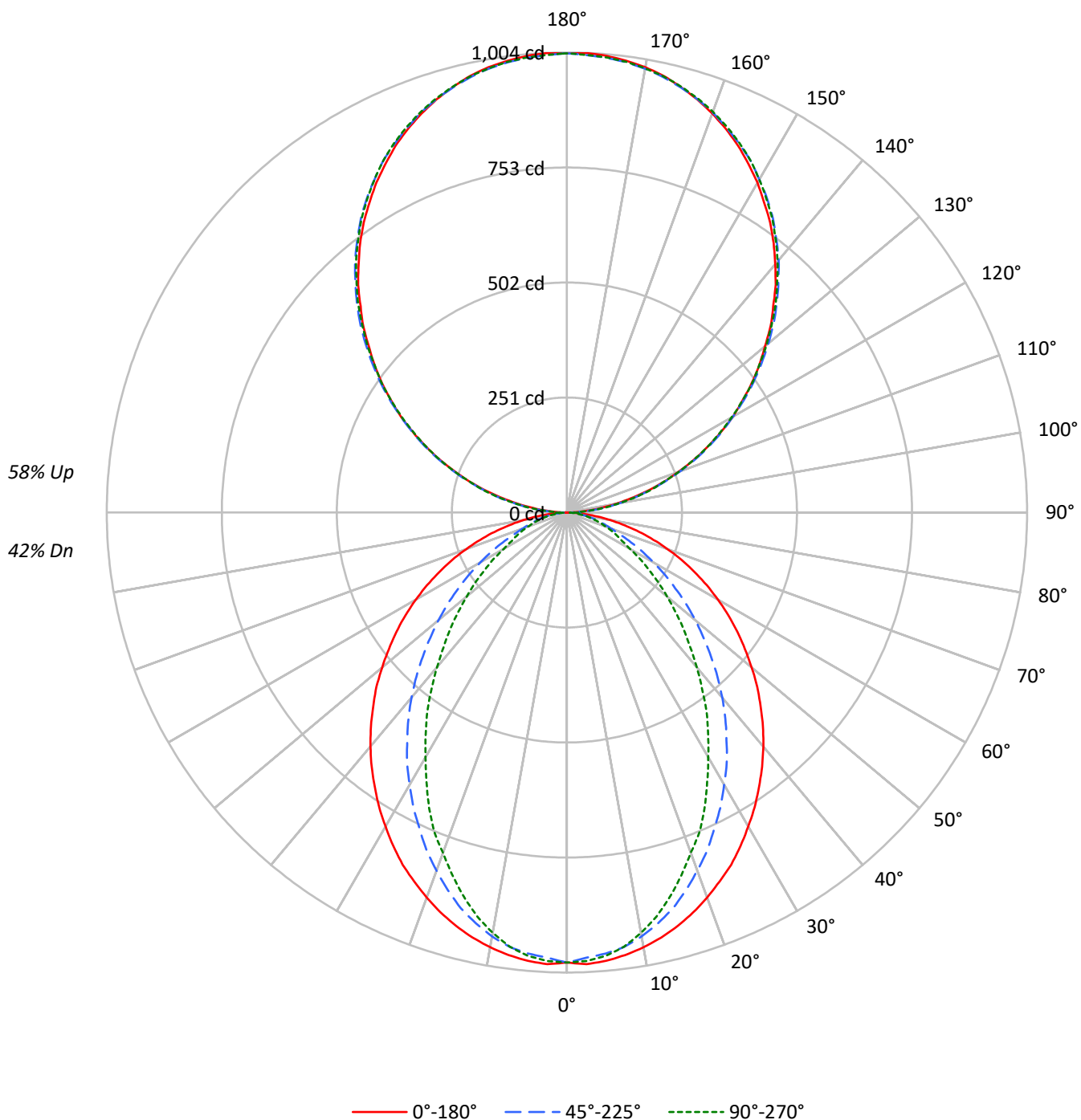
Lumens per Lamp: N/A
Luminaire Lumens: 4824.4 lumens
Efficiency: N/A
Efficacy: 86.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 3.07' x L: 3.07' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 55.7
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
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
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	96	96	96	96	79	79	79	63	63	63	49	49	49
1	96	92	89	85	88	84	81	78	70	67	65	56	55	53	44	43	42
2	88	81	75	70	80	74	69	65	61	58	55	50	47	45	39	37	36
3	81	72	65	59	73	66	60	55	55	50	47	44	41	39	35	33	31
4	74	64	56	50	67	58	52	47	49	44	40	40	36	33	31	29	27
5	68	57	49	43	62	52	45	40	44	39	35	36	32	29	28	26	24
6	63	51	43	38	57	47	40	35	40	34	30	33	29	26	26	23	21
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	24	21	19
8	54	42	34	29	49	39	32	28	33	28	24	27	23	21	22	19	17
9	50	38	31	26	46	36	29	25	30	25	22	25	21	19	20	18	16
10	47	35	28	24	43	33	26	22	28	23	19	23	19	17	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1119	1119	1119
5°	1120	1101	1108
10°	1109	1079	1072
15°	1093	1042	1016
20°	1072	992	947
25°	1050	937	881
30°	1022	880	797
35°	994	818	723
40°	965	755	638
45°	932	685	562
50°	898	614	487
55°	862	538	415
60°	821	460	342
65°	773	379	307
70°	715	305	277
75°	642	267	251
80°	537	222	217
85°	364	145	161

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°

Vertical Angle: 90°

Luminance: 1005 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	1.9
10°-20°	252.7	5.2
20°-30°	354.8	7.4
30°-40°	386.8	8.0
40°-50°	355.5	7.4
50°-60°	279.2	5.8
60°-70°	181.7	3.8
70°-80°	93.5	1.9
80°-90°	26.7	0.6
90°-100°	62.0	1.3
100°-110°	197.0	4.1
110°-120°	337.2	7.0
120°-130°	443.5	9.2
130°-140°	497.8	10.3
140°-150°	488.1	10.1
150°-160°	409.5	8.5
160°-170°	271.5	5.6
170°-180°	94.9	2.0
0°-30°	699.6	14.5
0°-40°	1086.3	22.5
0°-60°	1720.9	35.7
0°-90°	2022.9	41.9
90°-120°	596.2	12.4
90°-150°	2025.6	42.0
90°-180°	2801.0	58.1
0°-180°	4824.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	982	982	982	982	982	
5°	982	978	966	974	972	93
15°	934	924	894	877	868	263
25°	848	820	761	724	711	390
35°	731	685	607	551	532	457
45°	597	538	444	381	360	461
55°	454	385	289	236	219	406
65°	307	235	155	124	122	304
75°	164	101	71	65	64	173
85°	38	20	17	17	17	44
90°	1	11	30	28	29	5
95°	44	53	54	54	53	49
105°	182	184	186	188	188	192
115°	338	343	342	341	338	335
125°	492	500	497	495	494	440
135°	637	646	648	647	644	492
145°	773	779	784	785	781	483
155°	884	886	889	893	890	407
165°	961	960	960	966	962	271
175°	1000	998	996	1002	997	95
180°	1002	1002	1002	1002	1002	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	982.2	982.2	982.2	982.2	982.2
2.5°	986.7	982.2	972.4	981.4	979.6
5°	982.2	977.8	966.2	974.2	971.5
7.5°	974.2	968.9	956.5	960.0	955.5
10°	963.5	957.4	939.6	936.8	931.6
12.5°	950.2	942.2	918.2	912.9	903.1
15°	934.2	924.4	894.2	877.3	868.5
17.5°	915.5	901.3	864.0	844.5	830.2
20°	894.2	876.4	831.9	809.8	790.2
22.5°	871.2	850.6	799.1	768.9	755.6
25°	848.0	819.5	760.9	724.4	711.1
27.5°	820.5	790.2	725.3	683.6	663.1
30°	791.2	757.3	686.2	641.0	616.9
32.5°	762.6	721.8	649.0	595.6	573.3
35°	730.7	685.3	607.1	551.1	531.6
37.5°	699.6	650.6	568.0	506.6	484.5
40°	666.7	613.4	527.1	464.0	440.9
42.5°	632.9	576.1	486.2	420.4	398.2
45°	597.4	537.7	444.5	381.3	360.0
47.5°	563.6	500.5	404.5	341.3	321.8
50°	526.2	463.1	365.4	304.0	285.3
52.5°	489.7	423.1	328.0	269.3	252.5
55°	454.2	384.8	288.8	235.6	218.7
57.5°	417.8	346.7	254.3	204.5	190.2
60°	380.4	309.3	217.8	172.5	158.3
62.5°	344.0	272.9	186.6	144.0	137.0
65°	306.7	234.6	154.6	124.5	121.8
67.5°	271.2	199.1	124.5	109.3	106.6
70°	233.8	164.5	103.1	94.2	90.6
72.5°	198.2	132.4	86.2	79.1	77.3
75°	163.5	101.3	71.1	64.9	64.0
77.5°	128.9	71.9	56.0	52.4	50.6
80°	96.9	51.6	42.6	39.1	39.1
82.5°	67.5	34.7	29.3	27.6	27.6
85°	38.2	19.5	16.9	16.9	16.9
87.5°	14.3	7.1	7.1	6.3	6.3
90°	0.9	10.9	29.6	27.8	28.7
92.5°	18.7	25.3	26.3	27.2	27.2
95°	44.1	52.6	54.1	54.1	52.6
97.5°	73.4	81.3	84.6	84.6	84.6
100°	107.3	114.2	116.6	116.6	115.7
102.5°	142.9	148.1	151.4	152.3	151.4
105°	181.9	184.3	186.1	187.6	187.6
107.5°	220.5	224.2	224.2	224.7	220.5
110°	258.0	262.8	262.8	262.8	260.5

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	298.5	303.6	302.7	300.3	298.5
115°	338.3	343.3	341.7	340.8	338.3
117.5°	377.9	384.6	380.4	377.9	375.6
120°	417.9	424.5	417.9	417.9	415.1
122.5°	454.1	462.6	458.4	455.9	454.1
125°	492.2	499.7	497.3	494.6	493.7
127.5°	529.3	538.7	535.4	531.7	529.3
130°	564.0	575.0	573.5	571.6	568.3
132.5°	603.0	611.5	612.1	607.8	605.5
135°	636.6	645.9	647.8	646.8	644.4
137.5°	674.1	681.6	683.1	682.5	678.9
140°	706.9	714.5	718.7	718.7	715.4
142.5°	740.8	748.4	750.8	751.7	748.4
145°	772.9	778.9	783.7	784.7	781.3
147.5°	801.5	809.1	812.7	814.2	810.9
150°	831.2	836.3	839.6	842.3	839.6
152.5°	857.5	862.5	866.8	870.1	866.8
155°	883.7	886.1	888.8	893.1	890.3
157.5°	906.4	908.2	909.7	915.8	911.5
160°	926.6	928.4	929.3	934.5	930.8
162.5°	945.3	945.3	946.3	952.0	947.8
165°	961.4	960.4	960.4	966.5	962.3
167.5°	975.9	973.1	973.1	979.2	974.9
170°	986.7	984.3	983.4	989.4	984.3
172.5°	994.3	991.9	990.9	997.0	991.9
175°	1000.4	997.9	996.1	1002.1	997.0
177.5°	1003.7	1001.2	999.4	1004.6	999.4
180°	1002.1	1002.1	1002.1	1002.1	1002.1

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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	6.70	7.47	7.73	8.50	9.89	2.66	3.43	3.69	4.46	5.85
	3H	8.37	9.06	9.41	10.10	11.50	3.84	4.53	4.88	5.57	6.97
	4H	8.97	9.62	10.02	10.67	12.08	4.28	4.93	5.33	5.98	7.39
	6H	9.39	9.99	10.45	11.03	12.46	4.59	5.19	5.65	6.24	7.66
	8H	9.51	10.08	10.58	11.14	12.56	4.68	5.25	5.74	6.31	7.73
	12H	9.57	10.11	10.64	11.17	12.61	4.72	5.26	5.79	6.32	7.76
4H	2H	6.71	7.36	7.77	8.40	9.82	3.25	3.90	4.30	4.94	6.35
	3H	8.53	9.07	9.59	10.14	11.57	4.58	5.12	5.65	6.20	7.62
	4H	9.21	9.71	10.29	10.77	12.22	5.12	5.62	6.19	6.68	8.13
	6H	9.72	10.15	10.80	11.23	12.67	5.53	5.96	6.61	7.04	8.48
	8H	9.89	10.29	10.97	11.37	12.82	5.66	6.05	6.74	7.13	8.59
	12H	9.98	10.34	11.08	11.43	12.89	5.72	6.07	6.81	7.17	8.63
8H	4H	9.18	9.57	10.26	10.65	12.11	5.40	5.79	6.48	6.87	8.33
	6H	9.73	10.06	10.84	11.18	12.63	5.90	6.23	7.01	7.35	8.80
	8H	9.95	10.23	11.06	11.34	12.81	6.09	6.38	7.20	7.48	8.95
	12H	10.08	10.33	11.19	11.43	12.94	6.20	6.45	7.31	7.55	9.06
12H	4H	9.12	9.48	10.22	10.57	12.04	5.40	5.76	6.50	6.85	8.31
	6H	9.71	10.00	10.82	11.10	12.57	5.95	6.24	7.06	7.34	8.81
	8H	9.92	10.18	11.04	11.27	12.79	6.15	6.41	7.27	7.50	9.02

END OF REPORT