

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: P913782

Luminaire Tested: DFN2DIP-PN2F0-030D020US927-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P913782
REPORT IS A COMBINATION OF REPORTS P899464 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-030D020US927-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

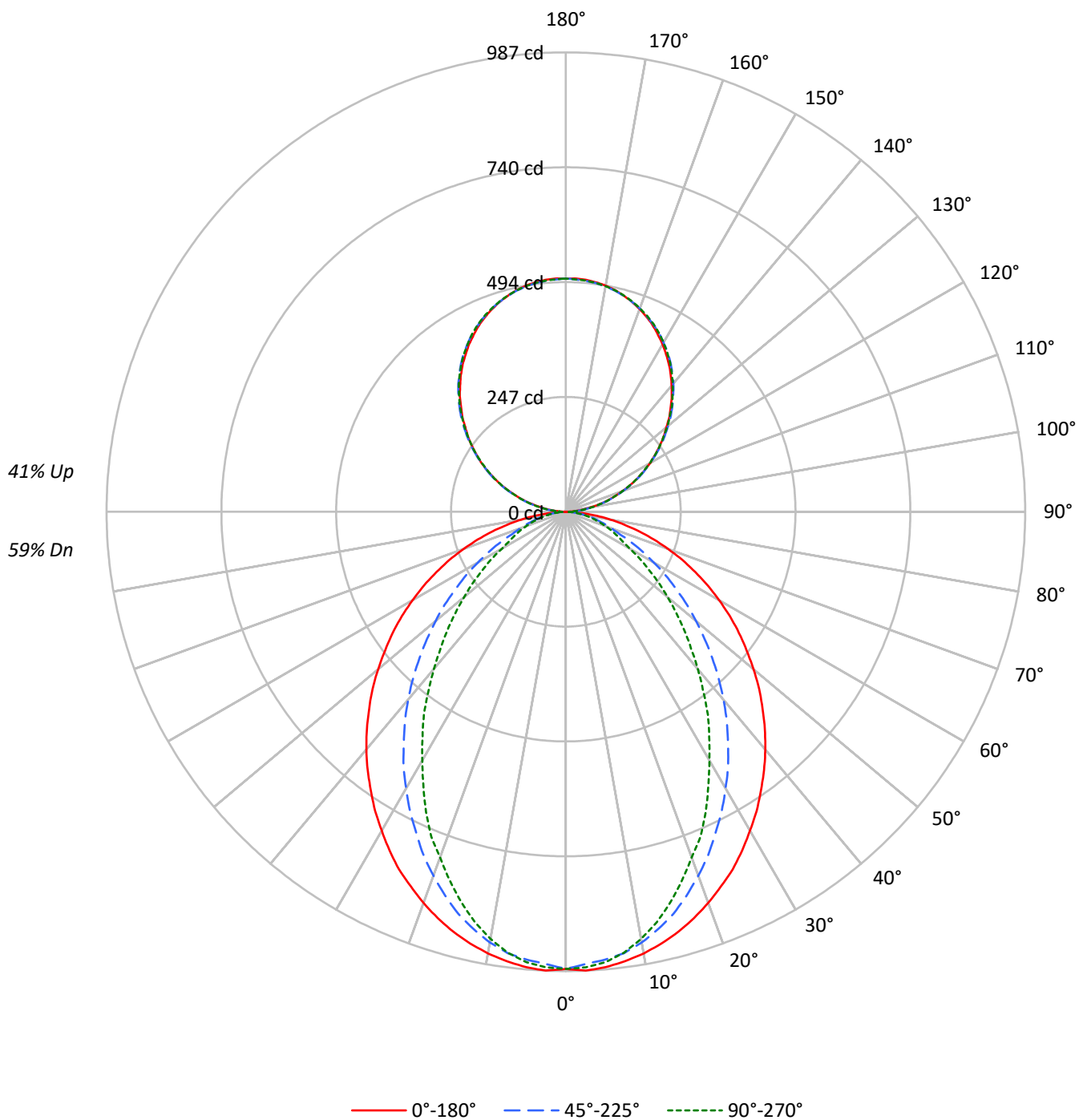
Lumens per Lamp: N/A
Luminaire Lumens: 3422.2 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: General Diffuse

Input Watts (W): 43.8
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

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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	109	109	109	109	102	102	102	102	88	88	88	76	76	76	64	64	64
1	100	96	92	89	94	90	87	84	78	76	74	68	66	64	58	57	56
2	92	85	79	74	86	79	74	70	69	65	62	60	57	55	52	50	48
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	44	41
4	77	67	59	53	72	63	56	51	55	50	46	48	44	41	42	39	36
5	71	60	52	46	66	56	49	44	50	44	40	44	39	36	38	34	32
6	66	54	46	40	61	51	44	39	45	39	35	40	35	32	35	31	28
7	61	49	41	36	57	46	39	34	41	35	31	36	32	28	32	28	25
8	57	45	37	32	53	42	35	30	38	32	28	33	29	25	29	26	23
9	53	41	34	29	50	39	32	27	35	29	25	31	26	23	27	24	21
10	50	38	31	26	47	36	29	25	32	27	23	29	24	21	25	22	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2127	2127	2127
5°	2127	2089	2104
10°	2103	2044	2032
15°	2070	1972	1924
20°	2029	1874	1791
25°	1986	1766	1664
30°	1930	1655	1503
35°	1875	1537	1362
40°	1818	1415	1200
45°	1753	1280	1054
50°	1685	1145	911
55°	1614	1000	775
60°	1532	850	635
65°	1437	697	568
70°	1322	556	509
75°	1176	481	457
80°	968	391	387
85°	633	243	275

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1753 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	2.7
10°-20°	252.7	7.4
20°-30°	354.8	10.4
30°-40°	386.8	11.3
40°-50°	355.5	10.4
50°-60°	279.2	8.2
60°-70°	181.7	5.3
70°-80°	93.5	2.7
80°-90°	25.3	0.7
90°-100°	31.0	0.9
100°-110°	98.5	2.9
110°-120°	168.6	4.9
120°-130°	221.7	6.5
130°-140°	248.9	7.3
140°-150°	244.1	7.1
150°-160°	204.7	6.0
160°-170°	135.8	4.0
170°-180°	47.5	1.4
0°-30°	699.6	20.4
0°-40°	1086.3	31.7
0°-60°	1720.9	50.3
0°-90°	2021.5	59.1
90°-120°	298.1	8.7
90°-150°	1012.8	29.6
90°-180°	1401.0	40.9
0°-180°	3422.2	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°	0	6	15	14	14	3
95°	22	26	27	27	26	25
105°	91	92	93	94	94	96
115°	169	172	171	170	169	167
125°	246	250	249	247	247	220
135°	318	323	324	323	322	246
145°	386	389	392	392	391	241
155°	442	443	444	447	445	203
165°	481	480	480	483	481	136
175°	500	499	498	501	498	48
180°	501	501	501	501	501	

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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°	0.5	5.5	14.8	13.9	14.3
92.5°	9.3	12.7	13.2	13.6	13.6
95°	22.0	26.3	27.0	27.0	26.3
97.5°	36.7	40.6	42.3	42.3	42.3
100°	53.6	57.1	58.3	58.3	57.8
102.5°	71.5	74.0	75.7	76.1	75.7
105°	90.9	92.1	93.1	93.8	93.8
107.5°	110.3	112.1	112.1	112.4	110.3
110°	129.0	131.4	131.4	131.4	130.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	149.2	151.8	151.4	150.1	149.2
115°	169.2	171.6	170.9	170.4	169.2
117.5°	189.0	192.3	190.2	189.0	187.7
120°	208.9	212.2	208.9	208.9	207.6
122.5°	227.0	231.2	229.2	228.0	227.0
125°	246.1	249.9	248.7	247.3	246.8
127.5°	264.7	269.3	267.7	265.9	264.7
130°	282.0	287.5	286.7	285.8	284.2
132.5°	301.5	305.8	306.0	304.0	302.7
135°	318.3	323.0	323.8	323.4	322.2
137.5°	337.0	340.8	341.6	341.3	339.4
140°	353.5	357.3	359.4	359.4	357.7
142.5°	370.4	374.1	375.4	375.8	374.1
145°	386.4	389.4	391.9	392.3	390.6
147.5°	400.8	404.6	406.4	407.1	405.4
150°	415.6	418.1	419.8	421.1	419.8
152.5°	428.7	431.3	433.4	435.1	433.4
155°	441.9	443.1	444.4	446.6	445.2
157.5°	453.2	454.1	454.9	457.9	455.7
160°	463.3	464.2	464.7	467.2	465.4
162.5°	472.7	472.7	473.1	476.0	473.9
165°	480.7	480.2	480.2	483.2	481.2
167.5°	487.9	486.6	486.6	489.6	487.5
170°	493.4	492.2	491.7	494.7	492.2
172.5°	497.2	495.9	495.5	498.5	495.9
175°	500.2	499.0	498.0	501.1	498.5
177.5°	501.8	500.7	499.7	502.2	499.7
180°	501.1	501.1	501.1	501.1	501.1

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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	10.46	11.37	11.34	12.27	13.41	6.43	7.34	7.31	8.24	9.37
	3H	12.12	12.94	13.02	13.84	15.01	7.60	8.42	8.50	9.33	10.49
	4H	12.72	13.49	13.63	14.40	15.58	8.05	8.82	8.96	9.73	10.90
	6H	13.13	13.84	14.05	14.76	15.94	8.36	9.06	9.28	9.98	11.17
	8H	13.25	13.92	14.18	14.86	16.04	8.44	9.11	9.37	10.05	11.24
	12H	13.31	13.95	14.24	14.88	16.09	8.48	9.12	9.41	10.05	11.26
4H	2H	10.48	11.25	11.40	12.16	13.34	7.02	7.79	7.94	8.70	9.88
	3H	12.30	12.93	13.22	13.88	15.07	8.36	9.00	9.28	9.94	11.13
	4H	12.98	13.56	13.91	14.50	15.71	8.89	9.48	9.83	10.42	11.63
	6H	13.48	13.98	14.42	14.94	16.15	9.30	9.80	10.25	10.76	11.98
	8H	13.64	14.11	14.59	15.06	16.29	9.42	9.89	10.37	10.84	12.07
	12H	13.73	14.15	14.70	15.12	16.36	9.48	9.90	10.45	10.88	12.11
8H	4H	12.94	13.41	13.90	14.37	15.60	9.17	9.64	10.12	10.59	11.82
	6H	13.49	13.88	14.47	14.88	16.10	9.67	10.05	10.64	11.05	12.28
	8H	13.69	14.04	14.68	15.02	16.27	9.84	10.19	10.83	11.17	12.42
	12H	13.82	14.12	14.81	15.10	16.40	9.95	10.25	10.94	11.24	12.53
12H	4H	12.90	13.32	13.87	14.29	15.53	9.17	9.59	10.14	10.57	11.80
	6H	13.47	13.81	14.45	14.79	16.04	9.71	10.05	10.70	11.04	12.28
	8H	13.67	13.98	14.66	14.96	16.25	9.91	10.21	10.90	11.19	12.48

END OF REPORT