

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: P905639

Luminaire Tested: DFN2DIP-PN2F0-050D020US835-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P905639
REPORT IS A COMBINATION OF REPORTS P900988 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-050D020US835-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

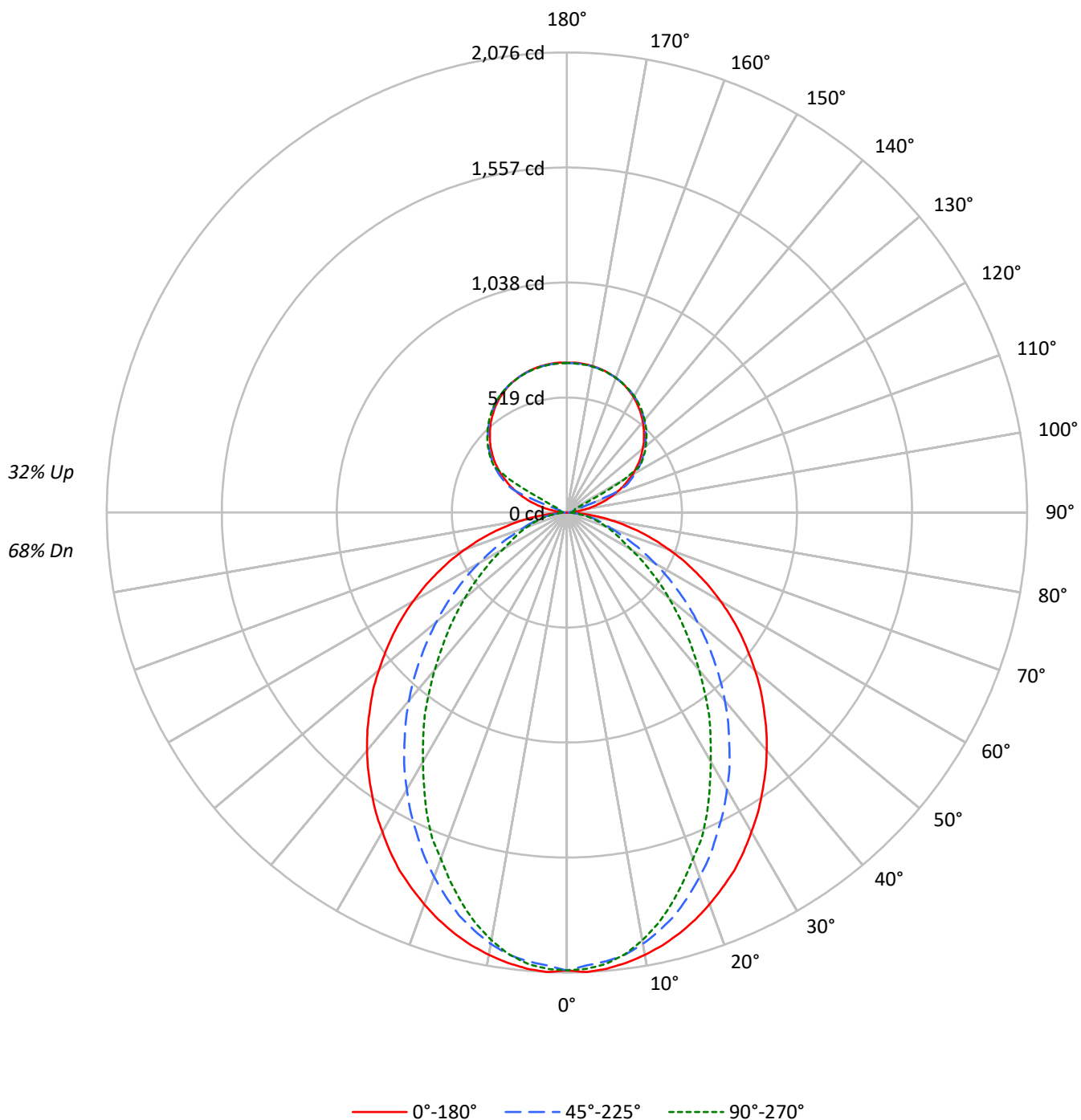
Lumens per Lamp: N/A
Luminaire Lumens: 6230.0 lumens
Efficiency: N/A
Efficacy: 93.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 67
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9821
Total Harmonic Distortion (THDi): 0.08
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	111	111	111	111	105	105	105	105	93	93	93	83	83	83	73	73	73
1	103	98	95	91	97	93	90	87	83	81	78	74	72	70	65	64	63
2	94	87	81	76	88	82	77	72	74	69	66	66	63	60	58	56	54
3	86	77	70	64	81	73	66	61	66	60	56	59	55	51	52	49	47
4	79	69	61	55	75	65	58	53	59	53	49	53	48	45	47	44	41
5	73	62	53	48	69	59	51	46	53	47	42	48	43	39	43	39	36
6	68	56	47	42	64	53	46	40	48	42	38	43	39	35	39	35	32
7	63	50	43	37	59	48	41	36	44	38	33	40	35	31	36	32	29
8	58	46	38	33	55	44	37	32	40	34	30	37	32	28	33	29	26
9	55	42	35	30	52	41	34	29	37	31	27	34	29	25	31	27	24
10	51	39	32	27	48	37	31	26	34	29	25	31	27	23	29	25	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4476	4476	4476
5°	4476	4395	4426
10°	4424	4299	4276
15°	4356	4148	4047
20°	4268	3943	3769
25°	4178	3716	3500
30°	4060	3483	3162
35°	3944	3234	2865
40°	3825	2977	2525
45°	3688	2693	2218
50°	3546	2408	1918
55°	3396	2104	1630
60°	3223	1788	1336
65°	3023	1468	1195
70°	2781	1170	1072
75°	2475	1012	962
80°	2037	823	814
85°	1332	511	578

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3688 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.7	3.1
10°-20°	531.7	8.5
20°-30°	746.5	12.0
30°-40°	813.7	13.1
40°-50°	747.9	12.0
50°-60°	587.3	9.4
60°-70°	382.3	6.1
70°-80°	196.8	3.2
80°-90°	51.4	0.8
90°-100°	22.3	0.4
100°-110°	83.0	1.3
110°-120°	220.1	3.5
120°-130°	365.0	5.9
130°-140°	387.7	6.2
140°-150°	360.3	5.8
150°-160°	289.7	4.6
160°-170°	186.7	3.0
170°-180°	64.2	1.0
0°-30°	1471.8	23.6
0°-40°	2285.5	36.7
0°-60°	3620.7	58.1
0°-90°	4251.2	68.2
90°-120°	325.3	5.2
90°-150°	1438.2	23.1
90°-180°	1979.0	31.8
0°-180°	6230.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2066	2066	2066	2066	2066	
5°	2066	2057	2033	2050	2044	196
15°	1966	1945	1881	1846	1827	554
25°	1784	1724	1601	1524	1496	821
35°	1537	1442	1277	1160	1118	962
45°	1257	1131	935	802	757	971
55°	956	810	608	496	460	854
65°	645	494	325	262	256	640
75°	344	213	150	136	135	364
85°	80	41	36	36	36	92
90°	0	6	10	12	13	6
95°	32	16	19	22	21	38
105°	148	163	30	35	37	159
115°	281	289	301	75	40	276
125°	397	403	413	416	418	354
135°	491	499	504	508	508	380
145°	570	570	578	581	579	356
155°	628	623	629	632	628	289
165°	661	658	660	663	660	187
175°	676	673	674	677	672	64
180°	675	675	675	675	675	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2066.5	2066.5	2066.5	2066.5	2066.5
2.5°	2075.8	2066.5	2045.9	2064.7	2060.9
5°	2066.5	2057.2	2032.8	2049.6	2044.1
7.5°	2049.6	2038.5	2012.3	2019.7	2010.3
10°	2027.2	2014.1	1976.8	1971.1	1959.9
12.5°	1999.2	1982.4	1931.8	1920.7	1900.0
15°	1965.5	1944.9	1881.4	1845.9	1827.2
17.5°	1926.2	1896.3	1817.7	1776.6	1746.6
20°	1881.4	1843.9	1750.4	1703.8	1662.5
22.5°	1832.8	1789.7	1681.2	1617.7	1589.7
25°	1784.1	1724.2	1600.8	1524.2	1496.0
27.5°	1726.2	1662.5	1526.0	1438.1	1395.1
30°	1664.5	1593.3	1443.7	1348.4	1297.8
32.5°	1604.6	1518.5	1365.3	1253.0	1206.2
35°	1537.3	1441.9	1277.4	1159.5	1118.3
37.5°	1471.8	1368.9	1195.1	1065.9	1019.3
40°	1402.6	1290.5	1108.9	976.2	927.6
42.5°	1331.6	1211.9	1023.0	884.5	837.9
45°	1256.8	1131.4	935.1	802.2	757.3
47.5°	1185.7	1053.0	851.0	718.1	677.0
50°	1107.2	974.4	768.7	639.5	600.4
52.5°	1030.4	890.1	690.1	566.7	531.2
55°	955.6	809.7	607.7	495.6	460.1
57.5°	879.0	729.4	534.9	430.2	400.2
60°	800.4	650.8	458.1	362.9	332.9
62.5°	723.8	574.2	392.7	303.0	288.1
65°	645.2	493.7	325.4	261.9	256.2
67.5°	570.4	418.9	261.9	230.0	224.4
70°	491.9	346.0	216.9	198.2	190.7
72.5°	417.1	278.6	181.4	166.5	162.7
75°	344.1	213.1	149.6	136.5	134.7
77.5°	271.2	151.4	117.9	110.3	106.5
80°	203.8	108.5	89.7	82.3	82.3
82.5°	142.1	73.0	61.7	57.9	57.9
85°	80.4	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
90°	0.5	5.9	9.7	12.2	13.2
92.5°	12.2	10.3	11.7	12.7	13.2
95°	31.7	15.6	19.0	21.5	21.0
97.5°	57.1	17.1	24.9	26.4	26.9
100°	86.5	19.5	27.8	31.7	32.7
102.5°	118.7	117.7	28.8	34.2	35.7
105°	148.5	163.1	29.8	35.1	37.1
107.5°	183.2	195.3	30.8	36.1	38.1
110°	216.4	226.6	85.5	36.7	38.6



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	247.6	256.4	248.1	37.6	39.1
115°	280.8	289.1	301.4	75.2	40.1
117.5°	309.6	319.4	327.7	257.9	129.9
120°	341.9	349.2	358.0	363.9	297.9
122.5°	369.2	377.0	386.8	389.7	390.3
125°	397.1	403.4	412.7	416.1	417.6
127.5°	422.5	429.3	436.7	441.5	442.0
130°	446.4	454.2	459.6	465.0	464.5
132.5°	470.8	477.2	482.5	486.9	486.5
135°	491.4	499.2	503.5	508.5	507.5
137.5°	512.8	518.7	523.6	528.5	527.0
140°	533.8	537.8	543.1	547.5	545.1
142.5°	551.4	554.9	561.2	565.1	562.6
145°	570.0	569.5	577.8	581.2	578.8
147.5°	586.1	584.6	592.9	595.3	593.4
150°	601.7	598.3	606.1	609.0	606.6
152.5°	614.9	611.0	618.3	621.3	617.8
155°	627.6	623.2	629.1	632.0	628.1
157.5°	637.9	634.0	638.4	641.8	637.9
160°	646.7	643.7	646.7	649.6	646.2
162.5°	654.4	651.5	654.0	657.4	653.0
165°	661.3	658.4	659.8	663.3	659.8
167.5°	666.7	663.7	665.2	668.7	664.2
170°	671.1	668.1	669.1	672.5	668.1
172.5°	674.0	671.1	672.1	675.5	671.1
175°	676.4	673.0	674.0	677.4	672.5
177.5°	677.4	674.0	674.5	677.9	673.5
180°	675.0	675.0	675.0	675.0	675.0

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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	13.79	14.80	14.58	15.60	16.59	9.76	10.77	10.55	11.57	12.56
	3H	15.46	16.36	16.27	17.18	18.20	10.95	11.84	11.75	12.66	13.68
	4H	16.07	16.91	16.89	17.74	18.77	11.39	12.24	12.21	13.06	14.09
	6H	16.48	17.26	17.31	18.09	19.13	11.71	12.49	12.54	13.32	14.36
	8H	16.60	17.34	17.44	18.20	19.24	11.79	12.54	12.64	13.39	14.43
	12H	16.66	17.37	17.51	18.21	19.28	11.83	12.54	12.68	13.39	14.45
4H	2H	13.83	14.67	14.65	15.50	16.53	10.37	11.21	11.19	12.04	13.07
	3H	15.65	16.35	16.49	17.21	18.26	11.71	12.42	12.55	13.27	14.32
	4H	16.33	16.97	17.18	17.83	18.90	12.25	12.89	13.10	13.75	14.82
	6H	16.84	17.39	17.70	18.27	19.35	12.66	13.21	13.53	14.09	15.17
	8H	17.00	17.52	17.87	18.39	19.48	12.78	13.30	13.65	14.18	15.26
	12H	17.10	17.56	17.98	18.45	19.55	12.85	13.31	13.74	14.21	15.30
8H	4H	16.31	16.82	17.18	17.70	18.79	12.53	13.05	13.40	13.92	15.01
	6H	16.86	17.28	17.75	18.20	19.29	13.03	13.46	13.93	14.38	15.47
	8H	17.06	17.44	17.97	18.35	19.46	13.21	13.59	14.12	14.50	15.61
	12H	17.19	17.53	18.10	18.43	19.59	13.33	13.66	14.23	14.56	15.72
12H	4H	16.27	16.73	17.16	17.63	18.72	12.54	13.01	13.43	13.90	14.99
	6H	16.83	17.21	17.74	18.12	19.23	13.08	13.46	13.99	14.37	15.47
	8H	17.05	17.38	17.95	18.28	19.44	13.28	13.61	14.19	14.52	15.68