

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: P924755

Luminaire Tested: DFN2DIP-PN2F0-060D020US950-RLLONL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924755
REPORT IS A COMBINATION OF REPORTS P900990 AND P897905
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-060D020US950-RLLONL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Open No Lens
Light Source: -
Ballast/Driver: -

Summary

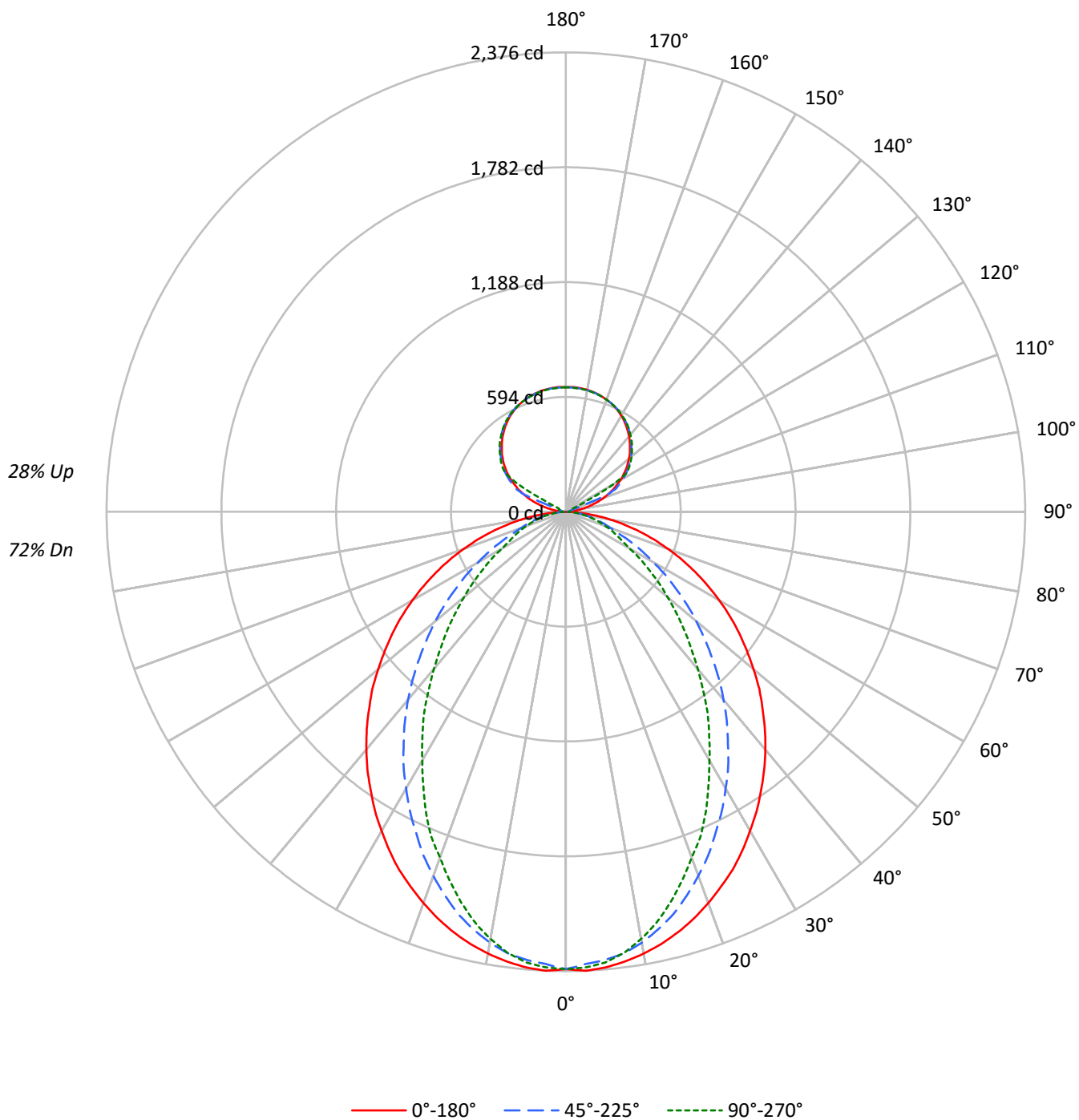
Lumens per Lamp: N/A
Luminaire Lumens: 6754.3 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 80.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.946
Total Harmonic Distortion (THDi): 0.132
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	112	112	112	112	107	107	107	107	96	96	96	86	86	86	76	76	76
1	103	99	95	92	98	94	91	88	85	82	80	76	75	73	69	67	66
2	95	87	81	76	90	83	78	73	75	71	68	68	65	62	61	59	57
3	87	78	70	65	82	74	67	62	67	62	58	61	57	53	55	52	49
4	80	69	61	55	76	66	59	54	60	54	50	55	50	46	50	46	43
5	74	62	54	48	70	59	52	47	54	48	44	50	45	41	45	41	38
6	68	56	48	42	65	54	46	41	49	43	39	45	40	36	41	37	34
7	63	51	43	38	60	49	42	36	45	39	34	41	36	32	38	34	30
8	59	47	39	34	56	45	38	33	41	35	31	38	33	29	35	31	27
9	55	43	35	30	52	41	34	30	38	32	28	35	30	26	32	28	25
10	52	40	32	28	49	38	31	27	35	29	25	33	28	24	30	26	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5124	5124	5124
5°	5124	5032	5067
10°	5065	4922	4895
15°	4987	4749	4633
20°	4886	4514	4314
25°	4784	4254	4007
30°	4648	3987	3620
35°	4515	3702	3279
40°	4379	3408	2891
45°	4222	3084	2539
50°	4059	2757	2196
55°	3888	2409	1866
60°	3690	2047	1529
65°	3461	1680	1368
70°	3183	1338	1227
75°	2834	1158	1102
80°	2331	942	933
85°	1524	585	661

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 4222 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.7	3.3
10°-20°	608.7	9.0
20°-30°	854.5	12.7
30°-40°	931.5	13.8
40°-50°	856.2	12.7
50°-60°	672.4	10.0
60°-70°	437.7	6.5
70°-80°	225.3	3.3
80°-90°	58.6	0.9
90°-100°	21.2	0.3
100°-110°	79.1	1.2
110°-120°	209.9	3.1
120°-130°	348.2	5.2
130°-140°	369.8	5.5
140°-150°	343.7	5.1
150°-160°	276.4	4.1
160°-170°	178.1	2.6
170°-180°	61.3	0.9
0°-30°	1684.9	24.9
0°-40°	2616.4	38.7
0°-60°	4144.9	61.4
0°-90°	4866.5	72.1
90°-120°	310.3	4.6
90°-150°	1372.0	20.3
90°-180°	1888.0	28.0
0°-180°	6754.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2366	2366	2366	2366	2366	
5°	2366	2355	2327	2346	2340	224
15°	2250	2226	2154	2113	2092	634
25°	2042	1974	1833	1745	1713	939
35°	1760	1651	1462	1327	1280	1102
45°	1439	1295	1071	918	867	1111
55°	1094	927	696	567	527	978
65°	739	565	372	300	293	732
75°	394	244	171	156	154	417
85°	92	47	41	41	41	106
90°	0	6	9	12	13	6
95°	30	15	18	20	20	36
105°	142	156	28	34	35	151
115°	268	276	288	72	38	264
125°	379	385	394	397	398	338
135°	469	476	480	485	484	362
145°	544	543	551	554	552	340
155°	599	594	600	603	599	276
165°	631	628	629	633	629	178
175°	645	642	643	646	642	61
180°	644	644	644	644	644	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2365.7	2365.7	2365.7	2365.7	2365.7
2.5°	2376.4	2365.7	2342.1	2363.6	2359.3
5°	2365.7	2355.0	2327.1	2346.5	2340.1
7.5°	2346.5	2333.7	2303.7	2312.1	2301.4
10°	2320.7	2305.7	2263.1	2256.5	2243.7
12.5°	2288.7	2269.4	2211.5	2198.8	2175.1
15°	2250.1	2226.4	2153.8	2113.1	2091.7
17.5°	2205.2	2170.8	2080.9	2033.8	1999.6
20°	2153.8	2110.8	2003.9	1950.5	1903.2
22.5°	2098.1	2048.8	1924.6	1851.9	1819.9
25°	2042.5	1973.9	1832.6	1745.0	1712.7
27.5°	1976.2	1903.2	1747.0	1646.3	1597.1
30°	1905.5	1824.0	1652.7	1543.7	1485.8
32.5°	1836.9	1738.4	1563.0	1434.4	1380.8
35°	1759.9	1650.7	1462.4	1327.4	1280.2
37.5°	1685.0	1567.0	1368.1	1220.3	1166.8
40°	1605.7	1477.4	1269.5	1117.5	1061.9
42.5°	1524.4	1387.4	1171.1	1012.6	959.2
45°	1438.7	1295.2	1070.6	918.3	867.0
47.5°	1357.4	1205.5	974.2	822.1	775.0
50°	1267.5	1115.5	880.0	732.1	687.4
52.5°	1179.5	1019.0	790.0	648.7	608.1
55°	1094.0	927.0	695.8	567.4	526.7
57.5°	1006.3	834.9	612.4	492.5	458.1
60°	916.3	745.1	524.5	415.5	381.1
62.5°	828.6	657.4	449.5	346.9	329.8
65°	738.7	565.1	372.5	299.8	293.3
67.5°	653.0	479.5	299.8	263.3	256.9
70°	563.1	396.1	248.2	227.0	218.3
72.5°	477.5	318.9	207.6	190.6	186.2
75°	393.9	243.9	171.2	156.3	154.3
77.5°	310.5	173.3	134.9	126.3	122.0
80°	233.3	124.2	102.7	94.3	94.3
82.5°	162.7	83.6	70.6	66.3	66.3
85°	92.0	47.0	40.6	40.6	40.6
87.5°	34.3	17.1	17.1	15.0	15.0
90°	0.5	5.6	9.3	11.6	12.6
92.5°	11.6	9.8	11.2	12.1	12.6
95°	30.2	14.9	18.1	20.5	20.0
97.5°	54.5	16.3	23.8	25.2	25.7
100°	82.5	18.6	26.5	30.2	31.2
102.5°	113.2	112.3	27.5	32.6	34.1
105°	141.7	155.6	28.4	33.5	35.4
107.5°	174.8	186.3	29.4	34.4	36.3
110°	206.4	216.2	81.6	35.0	36.8



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	236.2	244.6	236.7	35.9	37.3
115°	267.9	275.8	287.5	71.7	38.3
117.5°	295.4	304.7	312.6	246.0	123.9
120°	326.2	333.1	341.5	347.2	284.2
122.5°	352.2	359.7	369.0	371.8	372.3
125°	378.8	384.8	393.7	397.0	398.4
127.5°	403.1	409.6	416.6	421.2	421.7
130°	425.9	433.3	438.5	443.6	443.1
132.5°	449.1	455.2	460.3	464.5	464.1
135°	468.8	476.2	480.3	485.1	484.2
137.5°	489.2	494.8	499.5	504.2	502.8
140°	509.2	513.1	518.1	522.3	520.0
142.5°	526.0	529.4	535.4	539.1	536.7
145°	543.8	543.3	551.2	554.5	552.2
147.5°	559.1	557.7	565.6	567.9	566.1
150°	574.0	570.8	578.2	581.0	578.7
152.5°	586.6	582.9	589.9	592.7	589.4
155°	598.7	594.5	600.2	602.9	599.2
157.5°	608.6	604.8	609.0	612.3	608.6
160°	617.0	614.1	617.0	619.7	616.5
162.5°	624.3	621.5	623.9	627.2	623.0
165°	630.9	628.1	629.4	632.8	629.4
167.5°	636.0	633.2	634.6	637.9	633.6
170°	640.2	637.4	638.3	641.6	637.4
172.5°	643.0	640.2	641.2	644.4	640.2
175°	645.3	642.0	643.0	646.2	641.6
177.5°	646.2	643.0	643.5	646.7	642.5
180°	643.9	643.9	643.9	643.9	643.9

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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	14.56	15.61	15.31	16.37	17.29	10.53	11.58	11.28	12.34	13.26
	3H	16.23	17.17	16.99	17.95	18.90	11.72	12.65	12.48	13.43	14.38
	4H	16.84	17.72	17.62	18.51	19.47	12.16	13.05	12.94	13.83	14.80
	6H	17.25	18.07	18.05	18.86	19.84	12.48	13.30	13.27	14.09	15.07
	8H	17.38	18.15	18.18	18.96	19.94	12.57	13.35	13.37	14.16	15.13
	12H	17.44	18.18	18.25	18.98	19.98	12.61	13.35	13.42	14.16	15.16
4H	2H	14.60	15.48	15.38	16.27	17.23	11.14	12.02	11.92	12.81	13.77
	3H	16.42	17.16	17.22	17.98	18.96	12.49	13.22	13.28	14.04	15.02
	4H	17.11	17.78	17.92	18.59	19.60	13.03	13.70	13.84	14.52	15.52
	6H	17.62	18.19	18.44	19.03	20.05	13.44	14.02	14.27	14.86	15.88
	8H	17.78	18.32	18.62	19.16	20.19	13.57	14.10	14.40	14.94	15.97
	12H	17.88	18.36	18.73	19.22	20.25	13.63	14.11	14.48	14.97	16.00
8H	4H	17.09	17.63	17.92	18.46	19.49	13.31	13.85	14.14	14.69	15.71
	6H	17.64	18.08	18.50	18.96	19.99	13.82	14.26	14.68	15.14	16.17
	8H	17.84	18.24	18.71	19.11	20.16	14.00	14.39	14.87	15.27	16.31
	12H	17.98	18.33	18.85	19.19	20.29	14.11	14.46	14.98	15.32	16.42
12H	4H	17.05	17.53	17.90	18.39	19.42	13.33	13.81	14.18	14.67	15.70
	6H	17.61	18.01	18.48	18.89	19.93	13.86	14.26	14.73	15.13	16.18
	8H	17.83	18.18	18.70	19.04	20.14	14.07	14.41	14.94	15.28	16.38

END OF REPORT