

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: P924734

Luminaire Tested: DFN2DIP-PN2F0-050D020US950-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P924734
REPORT IS A COMBINATION OF REPORTS P899468 AND P896349
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-PN2F0-050D020US950-RLLFLL
Description: 2 foot, Pentagon Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

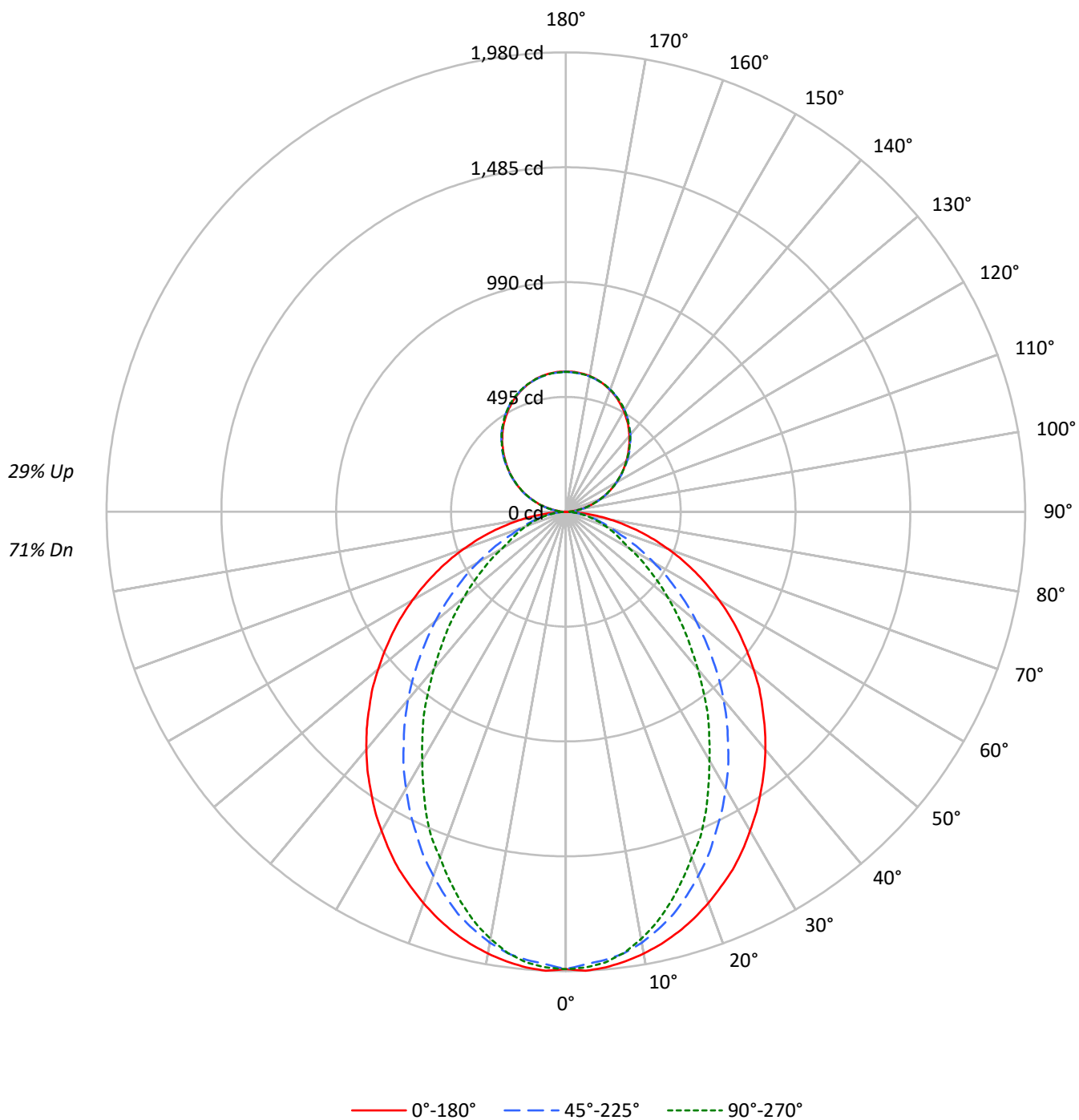
Lumens per Lamp: N/A
Luminaire Lumens: 5743.1 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.17' x L: 2.29' x H: 0.1')
CIE Type: Semi-Direct

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	112	112	112	112	106	106	106	106	95	95	95	85	85	85	75	75	75
1	103	99	95	92	97	94	90	88	84	82	79	76	74	72	67	66	65
2	94	87	81	76	89	83	78	73	75	71	67	67	64	61	60	58	56
3	87	77	70	64	82	74	67	62	67	61	57	60	56	53	54	51	48
4	80	69	61	55	75	66	59	53	60	54	49	54	49	46	49	45	42
5	74	62	54	48	69	59	52	46	54	48	43	49	44	40	44	40	37
6	68	56	48	42	64	54	46	41	49	43	38	44	39	36	40	36	33
7	63	51	43	37	60	49	41	36	45	38	34	41	36	32	37	33	30
8	59	47	39	33	56	45	37	32	41	35	31	37	32	29	34	30	27
9	55	43	35	30	52	41	34	29	38	32	28	35	30	26	32	28	24
10	52	39	32	27	49	38	31	27	35	29	25	32	27	24	30	25	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4270	4270	4270
5°	4270	4193	4223
10°	4221	4102	4079
15°	4156	3957	3861
20°	4072	3762	3595
25°	3986	3545	3339
30°	3873	3323	3016
35°	3762	3085	2733
40°	3649	2840	2409
45°	3519	2569	2116
50°	3383	2297	1830
55°	3240	2007	1555
60°	3075	1706	1274
65°	2884	1400	1140
70°	2653	1116	1023
75°	2362	965	918
80°	1943	785	777
85°	1271	488	552

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3519 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.8	3.2
10°-20°	507.2	8.8
20°-30°	712.1	12.4
30°-40°	776.3	13.5
40°-50°	713.5	12.4
50°-60°	560.3	9.8
60°-70°	364.7	6.4
70°-80°	187.7	3.3
80°-90°	49.6	0.9
90°-100°	37.3	0.6
100°-110°	118.7	2.1
110°-120°	203.0	3.5
120°-130°	267.0	4.6
130°-140°	299.7	5.2
140°-150°	293.9	5.1
150°-160°	246.5	4.3
160°-170°	163.5	2.8
170°-180°	57.1	1.0
0°-30°	1404.1	24.4
0°-40°	2180.4	38.0
0°-60°	3454.1	60.1
0°-90°	4056.2	70.6
90°-120°	359.0	6.3
90°-150°	1219.7	21.2
90°-180°	1687.0	29.4
0°-180°	5743.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1971	1971	1971	1971	1971	
5°	1971	1963	1939	1955	1950	187
15°	1875	1855	1795	1761	1743	528
25°	1702	1645	1527	1454	1427	783
35°	1467	1376	1219	1106	1067	918
45°	1199	1079	892	765	722	926
55°	912	772	580	473	439	815
65°	616	471	310	250	244	610
75°	328	203	143	130	128	347
85°	77	39	34	34	34	88
90°	1	7	18	17	17	6
95°	26	32	32	32	32	30
105°	110	111	112	113	113	116
115°	204	207	206	205	204	202
125°	296	301	300	298	297	265
135°	383	389	390	390	388	296
145°	465	469	472	472	470	291
155°	532	534	535	538	536	245
165°	579	578	578	582	580	163
175°	602	601	600	603	600	57
180°	603	603	603	603	603	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1971.4	1971.4	1971.4	1971.4	1971.4
2.5°	1980.3	1971.4	1951.8	1969.7	1966.1
5°	1971.4	1962.6	1939.3	1955.3	1950.1
7.5°	1955.3	1944.7	1919.7	1926.8	1917.8
10°	1933.9	1921.5	1885.9	1880.4	1869.7
12.5°	1907.2	1891.2	1842.9	1832.3	1812.6
15°	1875.1	1855.4	1794.9	1761.0	1743.1
17.5°	1837.6	1809.1	1734.1	1694.9	1666.3
20°	1794.9	1759.1	1669.9	1625.4	1586.0
22.5°	1748.5	1707.4	1603.9	1543.3	1516.6
25°	1702.0	1644.9	1527.2	1454.1	1427.2
27.5°	1646.8	1586.0	1455.8	1371.9	1330.9
30°	1587.9	1520.0	1377.3	1286.4	1238.1
32.5°	1530.8	1448.6	1302.5	1195.4	1150.7
35°	1466.6	1375.6	1218.6	1106.2	1066.9
37.5°	1404.1	1305.9	1140.1	1016.9	972.4
40°	1338.1	1231.1	1057.9	931.3	884.9
42.5°	1270.3	1156.2	975.9	843.8	799.4
45°	1199.0	1079.4	892.1	765.3	722.5
47.5°	1131.2	1004.6	811.9	685.1	645.9
50°	1056.3	929.6	733.3	610.1	572.8
52.5°	983.0	849.2	658.4	540.6	506.8
55°	911.6	772.5	579.7	472.8	438.9
57.5°	838.6	695.8	510.3	410.4	381.8
60°	763.6	620.9	437.0	346.2	317.6
62.5°	690.5	547.8	374.6	289.1	274.8
65°	615.5	471.0	310.4	249.9	244.4
67.5°	544.2	399.6	249.9	219.4	214.1
70°	469.3	330.1	206.9	189.1	181.9
72.5°	397.9	265.8	173.1	158.8	155.2
75°	328.3	203.3	142.7	130.2	128.5
77.5°	258.7	144.4	112.5	105.2	101.6
80°	194.4	103.5	85.6	78.5	78.5
82.5°	135.6	69.6	58.9	55.2	55.2
85°	76.7	39.2	33.9	33.9	33.9
87.5°	28.6	14.2	14.2	12.5	12.5
90°	0.6	6.6	17.8	16.7	17.3
92.5°	11.3	15.3	15.8	16.4	16.4
95°	26.5	31.7	32.5	32.5	31.7
97.5°	44.2	48.9	50.9	50.9	50.9
100°	64.6	68.8	70.2	70.2	69.6
102.5°	86.1	89.1	91.1	91.7	91.1
105°	109.5	111.0	112.1	113.0	113.0
107.5°	132.8	135.0	135.0	135.4	132.8
110°	155.4	158.3	158.3	158.3	156.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	179.7	182.8	182.3	180.8	179.7
115°	203.8	206.6	205.8	205.2	203.8
117.5°	227.6	231.6	229.1	227.6	226.1
120°	251.6	255.6	251.6	251.6	249.9
122.5°	273.4	278.5	276.0	274.6	273.4
125°	296.3	300.9	299.5	297.8	297.3
127.5°	318.7	324.4	322.4	320.2	318.7
130°	339.6	346.2	345.3	344.2	342.2
132.5°	363.1	368.2	368.5	366.0	364.5
135°	383.3	388.9	390.0	389.5	388.0
137.5°	405.8	410.4	411.4	411.0	408.8
140°	425.7	430.3	432.8	432.8	430.8
142.5°	446.1	450.6	452.1	452.6	450.6
145°	465.4	469.0	471.9	472.4	470.4
147.5°	482.6	487.2	489.4	490.3	488.3
150°	500.5	503.5	505.5	507.1	505.5
152.5°	516.3	519.4	521.9	523.9	521.9
155°	532.1	533.6	535.2	537.8	536.1
157.5°	545.8	546.8	547.8	551.4	548.8
160°	558.0	559.0	559.6	562.7	560.5
162.5°	569.3	569.3	569.7	573.3	570.7
165°	578.9	578.3	578.3	581.9	579.5
167.5°	587.6	585.9	585.9	589.6	587.1
170°	594.2	592.7	592.1	595.8	592.7
172.5°	598.7	597.2	596.7	600.4	597.2
175°	602.4	600.9	599.8	603.4	600.4
177.5°	604.4	602.9	601.8	604.8	601.8
180°	603.4	603.4	603.4	603.4	603.4

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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	13.81	14.85	14.58	15.63	16.57	9.78	10.82	10.55	11.60	12.54
	3H	15.49	16.41	16.27	17.20	18.18	10.97	11.89	11.75	12.69	13.66
	4H	16.09	16.96	16.89	17.76	18.75	11.42	12.29	12.21	13.09	14.08
	6H	16.51	17.31	17.31	18.12	19.12	11.73	12.54	12.54	13.34	14.34
	8H	16.63	17.39	17.45	18.22	19.22	11.82	12.58	12.64	13.41	14.41
	12H	16.69	17.42	17.51	18.24	19.26	11.86	12.59	12.69	13.41	14.44
4H	2H	13.85	14.72	14.65	15.52	16.51	10.39	11.26	11.19	12.06	13.05
	3H	15.68	16.40	16.49	17.23	18.24	11.74	12.46	12.55	13.30	14.30
	4H	16.36	17.02	17.19	17.85	18.88	12.28	12.94	13.11	13.77	14.80
	6H	16.87	17.43	17.71	18.29	19.33	12.69	13.26	13.53	14.12	15.15
	8H	17.04	17.56	17.88	18.42	19.47	12.81	13.34	13.66	14.20	15.25
	12H	17.13	17.60	17.99	18.48	19.53	12.88	13.35	13.74	14.23	15.28
8H	4H	16.34	16.87	17.18	17.72	18.77	12.56	13.09	13.41	13.95	14.99
	6H	16.89	17.33	17.76	18.22	19.27	13.07	13.50	13.94	14.40	15.45
	8H	17.09	17.48	17.98	18.37	19.44	13.24	13.63	14.13	14.52	15.59
	12H	17.23	17.57	18.11	18.45	19.57	13.36	13.70	14.24	14.58	15.70
12H	4H	16.30	16.77	17.16	17.65	18.70	12.57	13.05	13.44	13.92	14.98
	6H	16.86	17.25	17.75	18.14	19.21	13.11	13.50	13.99	14.39	15.46
	8H	17.08	17.42	17.97	18.30	19.42	13.31	13.66	14.20	14.54	15.66