

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: P907220

Luminaire Tested: DFN2DIP-TR3F0-080D030US835-RLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P907220
REPORT IS A COMBINATION OF REPORTS P900282 AND P897195
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR3F0-080D030US835-RLLFLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

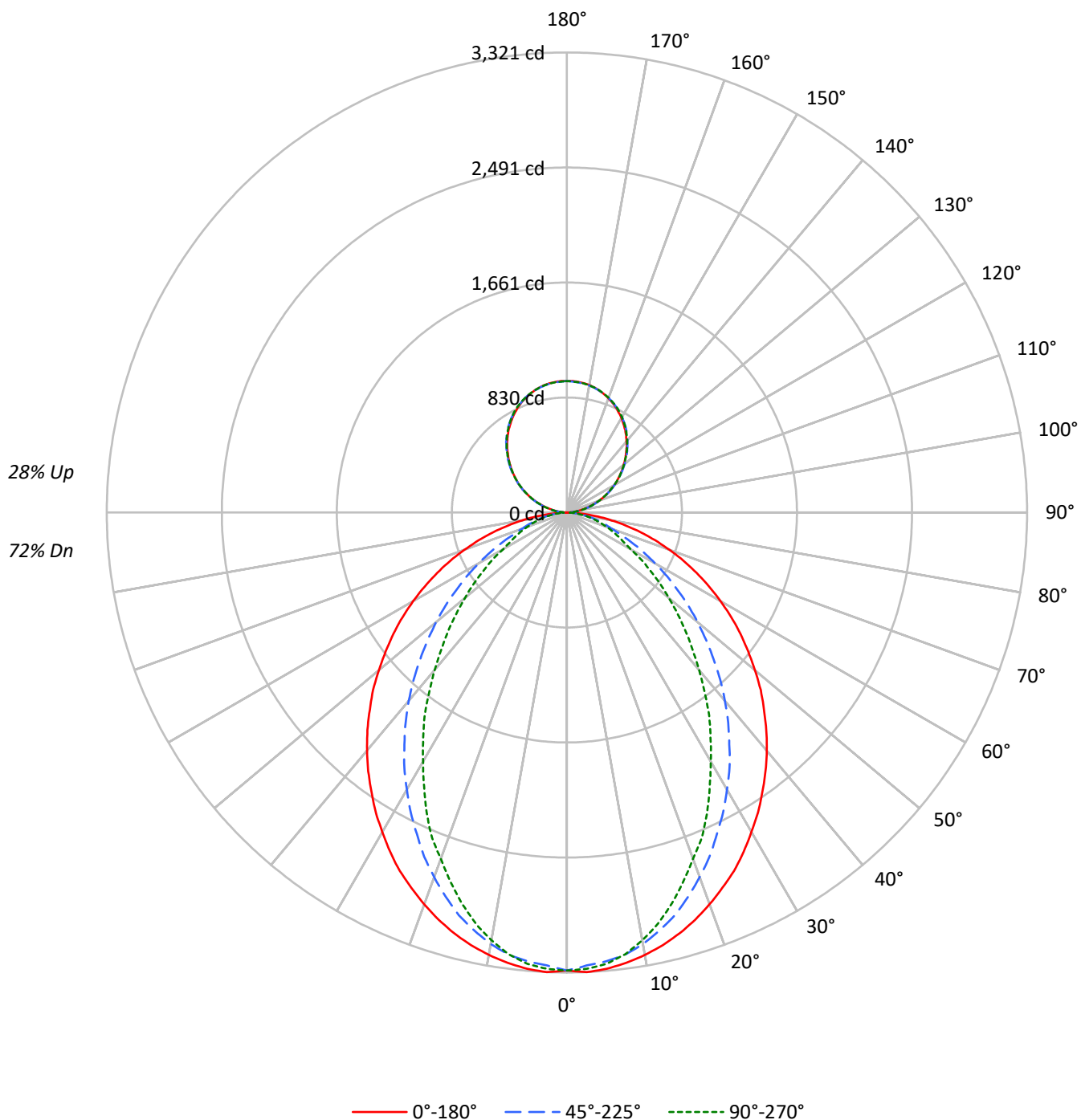
Lumens per Lamp: N/A
Luminaire Lumens: 9455.0 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular w/ Sides (W: 2.74' x L: 3.16' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 103.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9968
Total Harmonic Distortion (THDi): 0.064
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
RCR																	
0	112	112	112	112	106	106	106	106	96	96	96		85	85	85		76
1	103	99	95	92	98	94	91	88	85	82	80		76	75	73		69
2	95	87	81	76	90	83	78	73	75	71	67		68	65	62		61
3	87	78	70	65	82	74	67	62	67	62	58		61	57	53		55
4	80	69	61	55	76	66	59	53	60	54	50		55	50	46		50
5	74	62	54	48	70	59	52	47	54	48	44		49	45	41		45
6	68	56	48	42	65	54	46	41	49	43	39		45	40	36		41
7	63	51	43	38	60	49	42	36	45	39	34		41	36	32		38
8	59	47	39	34	56	45	38	33	41	35	31		38	33	29		35
9	55	43	35	30	52	41	34	30	38	32	28		35	30	26		32
10	52	40	32	28	49	38	31	27	35	29	25		33	28	24		30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4120	4120	4120
5°	4124	4051	4078
10°	4081	3968	3943
15°	4023	3834	3735
20°	3946	3650	3481
25°	3868	3444	3236
30°	3763	3234	2926
35°	3661	3007	2654
40°	3556	2774	2342
45°	3435	2515	2060
50°	3309	2255	1784
55°	3178	1976	1520
60°	3026	1686	1249
65°	2851	1391	1120
70°	2638	1116	1010
75°	2370	977	913
80°	1983	809	783
85°	1350	523	573

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3435 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	309.9	3.3
10°-20°	850.7	9.0
20°-30°	1194.3	12.6
30°-40°	1301.9	13.8
40°-50°	1196.6	12.7
50°-60°	939.7	9.9
60°-70°	611.7	6.5
70°-80°	314.9	3.3
80°-90°	83.1	0.9
90°-100°	58.7	0.6
100°-110°	186.5	2.0
110°-120°	319.2	3.4
120°-130°	419.8	4.4
130°-140°	471.2	5.0
140°-150°	462.1	4.9
150°-160°	387.7	4.1
160°-170°	257.1	2.7
170°-180°	89.9	1.0
0°-30°	2354.9	24.9
0°-40°	3656.8	38.7
0°-60°	5793.1	61.3
0°-90°	6802.7	71.9
90°-120°	564.5	6.0
90°-150°	1917.7	20.3
90°-180°	2652.0	28.0
0°-180°	9455.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3306	3306	3306	3306	3306	
5°	3306	3292	3252	3279	3270	314
15°	3145	3112	3010	2953	2924	886
25°	2855	2759	2561	2439	2394	1313
35°	2460	2307	2044	1855	1789	1540
45°	2011	1810	1496	1284	1212	1553
55°	1529	1296	972	793	736	1366
65°	1032	790	521	419	410	1024
75°	550	341	239	218	216	582
85°	129	66	57	57	57	148
90°	1	10	28	26	27	9
95°	42	50	51	51	50	46
105°	172	174	176	178	178	182
115°	320	325	324	323	320	317
125°	466	473	471	468	467	416
135°	603	612	613	612	610	466
145°	732	737	742	743	740	457
155°	837	839	842	846	843	385
165°	910	909	909	915	911	257
175°	947	945	943	949	944	90
180°	949	949	949	949	949	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3306.4	3306.4	3306.4	3306.4	3306.4
2.5°	3321.3	3306.4	3273.4	3303.5	3297.5
5°	3306.4	3291.5	3252.4	3279.4	3270.5
7.5°	3279.4	3261.6	3219.7	3231.5	3216.5
10°	3243.5	3222.6	3162.9	3153.7	3135.9
12.5°	3198.8	3171.8	3090.8	3073.0	3040.0
15°	3144.8	3111.8	3010.2	2953.4	2923.5
17.5°	3081.9	3034.0	2908.3	2842.6	2794.6
20°	3010.2	2950.2	2800.7	2726.1	2660.0
22.5°	2932.4	2863.5	2689.9	2588.3	2543.5
25°	2854.6	2758.8	2561.3	2438.8	2393.7
27.5°	2761.9	2660.0	2441.6	2301.0	2232.1
30°	2663.2	2549.2	2309.9	2157.5	2076.5
32.5°	2567.3	2429.6	2184.5	2004.8	1929.9
35°	2459.7	2307.0	2043.8	1855.3	1789.2
37.5°	2354.9	2190.2	1912.1	1705.4	1630.8
40°	2244.2	2064.8	1774.3	1561.9	1484.1
42.5°	2130.5	1939.1	1636.8	1415.3	1340.6
45°	2010.8	1810.2	1496.2	1283.5	1211.8
47.5°	1897.2	1684.8	1361.6	1148.9	1083.2
50°	1771.4	1559.1	1229.9	1023.2	960.6
52.5°	1648.6	1424.1	1104.1	906.7	849.9
55°	1528.9	1295.6	972.4	793.0	736.2
57.5°	1406.4	1167.0	855.9	688.3	640.3
60°	1280.6	1041.3	733.0	580.6	532.7
62.5°	1158.1	918.7	628.3	484.8	461.0
65°	1032.4	789.8	520.6	419.1	409.8
67.5°	912.7	670.2	419.1	367.9	359.1
70°	787.0	553.7	347.0	317.1	305.1
72.5°	667.3	445.7	290.2	266.4	260.3
75°	550.5	341.0	239.4	218.4	215.6
77.5°	434.0	242.2	188.6	176.5	170.5
80°	326.0	173.7	143.5	131.7	131.7
82.5°	227.3	116.8	98.7	92.7	92.7
85°	128.6	65.7	56.8	56.8	56.8
87.5°	47.9	23.8	23.8	21.0	21.0
90°	0.9	10.3	28.0	26.3	27.2
92.5°	17.7	24.0	24.9	25.7	25.7
95°	41.8	49.8	51.2	51.2	49.8
97.5°	69.5	76.9	80.1	80.1	80.1
100°	101.5	108.1	110.4	110.4	109.6
102.5°	135.3	140.2	143.3	144.2	143.3
105°	172.2	174.5	176.2	177.6	177.6
107.5°	208.8	212.2	212.2	212.8	208.8
110°	244.3	248.9	248.9	248.9	246.6

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	282.6	287.5	286.6	284.3	282.6
115°	320.4	324.9	323.5	322.7	320.4
117.5°	357.8	364.1	360.1	357.8	355.5
120°	395.6	401.9	395.6	395.6	393.0
122.5°	429.9	437.9	433.9	431.6	429.9
125°	466.0	473.1	470.8	468.2	467.4
127.5°	501.1	510.0	506.9	503.4	501.1
130°	534.0	544.3	542.9	541.2	538.0
132.5°	570.9	578.9	579.5	575.5	573.2
135°	602.7	611.5	613.3	612.4	610.1
137.5°	638.1	645.3	646.7	646.2	642.7
140°	669.3	676.5	680.5	680.5	677.3
142.5°	701.4	708.5	710.8	711.7	708.5
145°	731.7	737.4	742.0	742.8	739.7
147.5°	758.9	766.0	769.4	770.9	767.7
150°	786.9	791.8	794.9	797.5	794.9
152.5°	811.8	816.6	820.6	823.8	820.6
155°	836.7	838.9	841.5	845.5	843.0
157.5°	858.1	859.8	861.3	867.0	863.0
160°	877.3	879.0	879.9	884.7	881.3
162.5°	895.0	895.0	895.9	901.3	897.3
165°	910.2	909.3	909.3	915.0	911.0
167.5°	923.9	921.3	921.3	927.0	923.0
170°	934.2	931.9	931.1	936.8	931.9
172.5°	941.3	939.1	938.2	943.9	939.1
175°	947.1	944.8	943.1	948.8	943.9
177.5°	950.2	947.9	946.2	951.1	946.2
180°	948.8	948.8	948.8	948.8	948.8

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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	13.86	14.91	14.61	15.67	16.59	9.83	10.88	10.58	11.65	12.57
	3H	15.54	16.48	16.31	17.26	18.21	11.03	11.97	11.80	12.75	13.70
	4H	16.15	17.04	16.94	17.82	18.79	11.49	12.37	12.27	13.16	14.12
	6H	16.58	17.39	17.37	18.19	19.17	11.82	12.63	12.61	13.43	14.40
	8H	16.71	17.48	17.51	18.29	19.27	11.91	12.69	12.72	13.50	14.48
	12H	16.77	17.51	17.58	18.32	19.32	11.96	12.70	12.77	13.50	14.51
4H	2H	13.90	14.78	14.69	15.57	16.53	10.45	11.33	11.24	12.12	13.09
	3H	15.74	16.47	16.54	17.29	18.27	11.81	12.55	12.61	13.37	14.35
	4H	16.43	17.10	17.24	17.92	18.93	12.37	13.03	13.18	13.85	14.86
	6H	16.95	17.53	17.78	18.37	19.38	12.79	13.37	13.62	14.21	15.22
	8H	17.12	17.66	17.96	18.50	19.53	12.92	13.46	13.75	14.30	15.32
	12H	17.22	17.71	18.08	18.57	19.60	12.99	13.47	13.84	14.33	15.37
8H	4H	16.41	16.95	17.25	17.79	18.82	12.66	13.19	13.49	14.03	15.06
	6H	16.98	17.42	17.84	18.30	19.33	13.17	13.62	14.03	14.50	15.53
	8H	17.19	17.58	18.06	18.46	19.51	13.36	13.76	14.23	14.63	15.68
	12H	17.33	17.68	18.20	18.55	19.65	13.49	13.83	14.36	14.70	15.80
12H	4H	16.38	16.86	17.23	17.72	18.75	12.67	13.15	13.52	14.01	15.04
	6H	16.95	17.35	17.82	18.23	19.27	13.22	13.62	14.09	14.49	15.54
	8H	17.18	17.52	18.05	18.39	19.49	13.44	13.78	14.31	14.65	15.75